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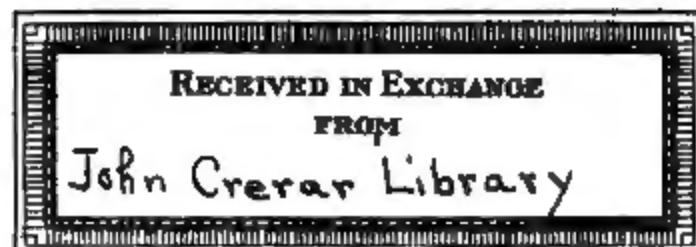
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STATE OF ILLINOIS

Third Administrative Report

of the

Directors of Departments

under the

Civil Administrative Code

together with

The Adjutant General's Report

For the year, July 1, 1919, to June 30, 1920

[Printed by authority of the State of Illinois.]



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LETTER OF TRANSMITTAL

HONORABLE FRANK O. LOWDEN, *Governor*:

The Third Annual Report of the Directors of the nine Administrative Code Departments, covering the period July 1, 1919 to June 30, 1920, and the report of the Adjutant General covering the two years ending November 30, 1920 is transmitted herewith.

Reports have been confined to as brief space as practicable in covering this important period of the administration.

This report completes the third year under the Civil Administrative Code, which is now firmly established as an efficient system of State administration.

In submitting this report the directors wish to express their appreciation of the wise counsel and many courtesies received from the Executive Department during this and the two preceding years.

OMAR H. WRIGHT, *Director, The Department of Finance*

CHARLES ADKINS, *Director, The Department of Agriculture*

BARNEY COHEN, *Director, The Department of Labor*

MARTIN BOLT, *Acting Director, The Department of Mines and Minerals*

FRANK I. BENNETT, *Director, The Department of Public Works and Buildings*

CHARLES H. THORNE, *Director, The Department of Public Welfare*

C. ST. CLAIR DRAKE, M. D., *Director, The Department of Public Health*

WILLIAM H. BOYS, *Director, The Department of Trade and Commerce*

FRANCIS W. SHEPARDSON, *Director, The Department of Registration and Education*

FRANK S. DICKSON, *Brigadier General, The Adjutant General.*

Report of

THE DEPARTMENT OF FINANCE

From July 1, 1919, to June 30, 1920

OMAR H. WRIGHT, *Director*

EVERETT H. TRIPP, *Assistant Director*

JOSEPH C. MASON, *Administrative Auditor*

W. H. McLAIN, *Superintendent of Budget*

A. T. SPIVEY, *Superintendent of Department Reports*

THE DEPARTMENT OF FINANCE

OMAR H. WRIGHT, *Director*

At the close of the third year under the operation of the Civil Administrative Code, June 30, 1920, this department presents to the Governor a report of its duties, its work and the financial condition of the divisions of the State service which make reports to it.

DUTIES

The duties of this department have been recounted many times. They are, briefly:

1. Prescribe accounting systems.
2. Prescribe forms for the use of the several departments.
3. Supervise expenditures.
4. Examine accounts.
5. Keep controlling accounts.
6. Prescribe rules for purchasing and catalog prices and quantities covering goods purchased.
7. Examine accounts of all bodies to which State money is appropriated.
8. Report to Attorney General any illegal expenditure of money.
9. Examine and approve or disapprove all vouchers, bills and claims.
10. Prescribe all forms to be filed with the Department of Finance.
11. Inspect articles furnished or work performed and determine that all requirements have been met.
12. Prepare and furnish Governor estimates of income and revenue of State.
13. Prepare a budget for the Governor.
14. Publish bulletins of work of the State Government.
15. Investigate duplication of work done, efficiency of other departments and plan for cooperation.

ACCOMPLISHMENTS

The department, in its three years of work, has been able, among other things, to accomplish the following:

1. A uniform system of bookkeeping for ordinary and industrial accounts has been put into operation in the charitable and penal divisions; also uniformity of accounting in all divisions, as far as their diversified activities would permit.
2. Forms prescribed early in 1917 have been continued and improvements have been instituted wherever possible.
3. Supervision of clerical work of the different divisions has been carried on, to bring about as nearly correct reports of their financial condition as possible at the end of each month.
4. Controlling accounts are being kept, by which it is possible to tell what percentage of each appropriation for each division has

been expended at close of each month; also detailed figures on charitable and penal divisions, showing what the condition of their funds will be at the end of the biennium, based on a total of expenditures and unpaid bills at close of each month. Summary figures are made up at close of each month from reports received, which give in concise detail the results shown by the controlling accounts.

5. Specifications for the purchase of supplies have been prescribed for the use of the Superintendent of Purchases and Supplies and, under direction of this department, the Division of Purchases and Supplies is maintaining a record of supplies bought and prices paid.
6. Vouchers of all Code Departments and of such other activities as must be approved by the Department of Finance, have been passed upon.
7. Estimates have been made to the Governor, of revenues and income of the State at such times as required by him.
8. A budget was prepared and presented to the Governor early in January 1919, and a second budget is now in preparation for use when the next General Assembly convenes in January, 1921.

All of these duties and others will be continued during the next year.

FINANCIAL CONDITION OF ALL DIVISIONS

The financial condition of each division, whose reports come to this department, is quite satisfactory at the close of the first year of this biennium, with the exception of a few isolated cases where the first year's estimates of the biennial appropriation have not been quite sufficient to take care of their needs, and small amounts have been used that belong to the second year.

The appropriations to the charitable and penal divisions for food, fuel, clothing and other operating items, were insufficient to care for the 30,000 people who must be fed, clothed and housed.

The expected reduction in prices of all supplies, which seemed imminent in January, 1919, never materialized and, instead of reduced prices, the buying of the State has been done on a constantly rising market for the past twelve months. The results of the year ending June 30, 1920, are given in copies of the monthly reports received by this department from all divisions, which are included in this report.

BUDGET

The Fifty-first General Assembly adjourned June 29, 1919. The first work in connection with the budget to be submitted to the Fifty-second General Assembly began with the analyses and summary of the appropriation bills just passed and a study of the new laws affecting the revenue and financial affairs of the State.

During the year, vouchers passed for payment have been examined and the sub-classification accounts maintained. A record and classification of revenue has also been maintained.

Visits have been made to many of the institutions and offices and preliminary investigations made with reference to their appropriation needs and revenue.

A pamphlet was prepared and issued describing the standard appropriation accounts as defined by the Fifty-first General Assembly, together with the classification thereof for the purpose of bringing about uniformity.

The laws effective July 1, 1919, providing for an annual franchise tax on corporations and a privilege tax on insurance companies, have increased the revenue of the State as expected. Sufficient time has not elapsed to judge the results of the new inheritance tax schedules.

The Finance Code has proven an advantage and the new plan of providing a revolving fund for the industrial activities of the penal institutions is working satisfactorily.

A comparative statement of the appropriations of the last three biennial sessions of the General Assembly is reprinted from our last report:

	Amount appropriated biennium 1915-16.	Amount appropriated biennium 1917-18.	Amount appropriated biennium 1919-20.
Payable from general revenue fund:			
Salaries and wages.....	\$8,639,108 98	\$10,900,511 30	\$14,278,277 60
Office expenses.....	761,805 77	899,292 34	955,384 00
Traveling expenses.....	768,239 47	970,858 74	1,215,636 00
Operating supplies and expenses.....	6,339,608 64	7,437,657 96	9,020,412 00
Industrial working capital.....	101,064 00	919,700 00	279,200 00
Repairs.....	913,166 11	1,055,313 08	1,775,094 00
Equipment.....	601,566 26	608,766 67	552,990 00
Buildings.....	3,274,024 08	1,836,482 60	5,650,104 65
Land.....	21,700 00	145,000 00	515,000 00
Contingencies.....	291,772 00	898,737 01	792,900 00
Deficiencies.....	238,682 38	962,206 78	1,786,207 37
Organization—State militia.....		750,000 00	
Cyclone relief.....		275,000 00	
Unclassified.....	4,367,897 63	2,419,859 51	3,020,525 43
Constitutional Convention.....			500,000 00
Re-appropriations.....	2,026,846 66	*1,560,962 94	696,818 40
Printing.....	470,000 00	841,960 00	981,260 00
Salaries of State officers.....	3,722,032 00	3,091,566 00	3,126,200 00
Total.....		29	\$46,096,009 44
Payable from special mill tax fund:			
University of Illinois.....		00	5,000,500 00
State School Fund.....		00	12,000,500 00
Total.....		29	\$17,001,000 00
Payable from receipts other than taxes—			
State Fire Marshal.....	\$ 155,412 00	\$ 147,307 01	\$ 196,861 37
Illinois and Michigan Canal.....	25,000 00	60,000 00	100,000 00
State Highways (auto fees).....	2,000,000 00	3,620,063 70	17,095,126 32
State Highways (Federal aid).....			12,100,000 00
Industrial Revolving Fund.....			1,000,000 00
Payable from bond issues:			
Highways.....		**60,000,000 00	60,000,000 00
Waterways.....			20,000,000 00

* The re-appropriations of 1917 are also distributed in the figures preceding this amount.

** This amount was appropriated but none of it was expended.

RESERVE FUND APPROPRIATION

Following the recommendations in our first budget letter of transmittal, the last General Assembly appropriated to this department a lump sum of \$500,000 as reserve to be used for contingencies. Assignments from this fund were to be made only upon written approval of the Governor.

During the fiscal year ending June 30, 1920, the following assignments have been made:

To the Adjutant General for Chicago riot.....	\$110,000.00
To the St. Charles School for Boys, for smokestack destroyed by wind..	7,000.00
To the St. Charles School for Boys, for cottage destroyed by wind.....	9,000.00
To the Plant Industry Division for formaldehyde (take-all and flag smut)	5,000.00
To the Chester State Hospital for retaining wall.....	8,500.00
To the Starved Rock, for addition.....	4,540.80
Total	\$144,040.80

The plan has worked well. Notwithstanding numberless requests for assignment of funds, the theory in making this appropriation has been rigidly followed. No request for any transfer from this appropriation has been granted except to cover emergencies, or for the purpose of paying obligations, the incurring of which it was impossible to foresee.

The appropriation of this reserve fund made it unnecessary to follow the established custom of appropriating considerable amounts to each department for contingent purposes. This has tended to remove the danger of wasteful expenditures. The reserve appropriation also made it unnecessary to appropriate to each department sufficient to meet its maximum needs. It has made possible more careful supervision and at this time it is evident that it will be possible to return to the State Treasury a large part of the appropriation made.

THE FINANCE CODE

The last General Assembly, also enacted into law the bill known as "The Finance Code." Among other things this bill provides, first, for an industrial working capital fund for State penal institutions; second, it changes the fiscal year to end June 30 instead of September 30; and, third, it provides for uniformity in appropriations available and lapse of the same, definitions and general conditions having to do with public expenditures.

The operation of this code has worked successfully. It has made possible a better working basis, a more intelligent consideration of financial problems, and a system of checks and reports which have tended to a much more clear and careful business understanding of the needs of the State.

TRANSFER OF FUNDS

The last General Assembly, also, following the budgetary recommendations, appropriated lump sums with provisions for transfer of portions of the same from one to another of the various penal and charitable institutions. Under existing industrial conditions it would

have been well nigh impossible to have operated the various State institutions during this biennium but for the elasticity afforded by this method of making appropriations. It has been possible, thereby, to increase salaries at practically all of the State institutions. This was necessary in order to maintain these institutions upon any basis. Undoubtedly, it has materially improved the personnel of the employed force over the State.

The legal transfer of funds from one institution to another, upon the request of the Director of the Department of Public Welfare, approved by the Director of Finance, has made possible the application of the savings of one institution to the necessities of another. The plan has not resulted in wastefulness and with the careful supervision which has been exercised, has enabled the institutions to perform the service and render the return which the law and the legislature contemplated.

This method of making appropriations could well be extended to the normal schools and, perhaps, to some other State activities.

WORKING CAPITAL APPROPRIATION

The appropriation of \$1,000,000 as an industrial working capital revolving fund, has justified the recommendation made previous to the enactment of this section of the appropriation act.

While the amount of the revolving fund must necessarily be included in the total of the appropriations made, the figures do not mean anything so far as being a tax upon the Treasury or the people of the State. Under the law, no funds can be paid from this appropriation until receipts from industrial operations have been deposited in the State Treasury sufficient to pay any indebtedness which may be incurred for labor or material. The segregation of this fund in the State Treasury has enabled the department to keep the records and accounts separate and distinct from other activities. By the installation of these records and accounts at the different institutions, with the detailed figures of income and outgo, it has been possible to determine at all times whether or not the industrial operations were upon a proper business basis.

On July 1, 1920, there had accumulated to the credit of this account in the State Treasury the very considerable sum of \$311,640.69.

INCREASED MANUFACTURING OPERATIONS

It will be well to consider the advisability of increasing appropriations for industrial purposes, thereby providing for the expansion of the manufacturing operations at the different institutions. Many states are making their own automobile plates, are packing a large proportion of their canned goods and are manufacturing wool and cotton cloth for use in the state institutions. Illinois is now paying large sums annually for all of these and other supplies which might be produced by institutional labor, much of which is idle.

AUDITING VOUCHERS

The work performed by the Administrative Auditor and his assistants from July 1, 1919 to June 30, 1920, was nearly double the previous year. This is illustrated by the following table for the quadrennium:

Year.	Number of vouchers.	Amount of vouchers.
1916.....	31,007	\$ 5,285,354.10
1917.....	58,879	13,721,797.42
1918.....	57,543	12,719,818.69
1919.....	76,229	24,107,967.66

During the past year, errors were found in vouchers necessitating an increase of \$1,229.93, and a decrease in their totals of \$3,495.54. Through the watchfulness of the division, discounts aggregating \$57,193.55 were saved to the State. Through delays, discounts amounting to \$137.49 were lost. The department took \$176.22 discounts in error which subsequently had to be refunded.

The new work devolving upon the Administrative Auditor was the passing upon requisitions for all purchases. This work was done previously in the Department of Public Works and Buildings, by the Superintendent of Purchases and Supplies. It was found that with his other duties he could not devote the time necessary to pass upon requisitions and besides the Department of Finance had more power to prevent unusual or unnecessary purchases than was vested in the Department of Public Works and Buildings.

During the year, the Administrative Auditor passed 10,872 ordinary requisitions. Supplies in the charitable, penal and reformatory institutions and normal schools are purchased on quarterly estimates. The Administrative Auditor passed 6,652 institution quarterly requisitions and 576 normal school quarterly requisitions, making a total of 18,100 requisitions scrutinized during the year.

Orders for printing also were approved by the Administrative Auditor. During the year 16,209 orders for printing and stationery supplies were passed.

For years it had been the custom for the State Auditor of Public Accounts to handle all accounts for conveying offenders to State penal and reformatory institutions; of messengers for returning fugitives from justice; and the payment of rewards for the capture of fugitives. Under the new State Finance Code, effective July 1, 1919, all of those accounts were sent through the office of the Administrative Auditor, who checked them, approved them and forwarded them to the Auditor of Public Accounts for payment. The Administrative Auditor approved vouchers for the conveyance of 1,885 offenders, aggregating \$34,899.68, to the respective penal and reformatory institutions. During the same period, 165 bills for the payment of expenses providing for the apprehension and delivery of fugitives from justice were audited and approved for payment by the Governor, acting through the Administrative Auditor. Rewards amounting to \$450.00 for the arrest of offenders fugitive from justice

were adjusted and approved for payment by the Governor, through the Administrative Auditor.

STANDARDIZATION OF SALARIES

The need of standardization of salaries and employment has long been recognized. There is no assurance of equal pay for those performing the same duties and there is no adequate system of advancement in the State service. Private business offers better opportunities for the ambitious than does the State service.

The subject has been agitated for some time and the last General Assembly appointed a commission to investigate salaries. This commission is composed of three members of the House of Representatives, three members of the Senate, the Lieutenant Governor, the Secretary of State, the Auditor of Public Accounts, the Attorney General, the President of the University of Illinois, the Director of Finance and one member of the Civil Service Commission. It was the hope of the legislature that this commission might work out some plan of reorganizing the State service in such a way as to provide equal pay for the same service and better opportunities for the faithful and intelligent employee.

An attempt has been made by lump-sum appropriations to the University of Illinois and some other divisions of the State Government to remedy inequalities in pay. But for this lump-sum appropriation it would have been practically impossible in the rapidly rising labor market to have retained a sufficient number of employees to carry on the necessary work.

The last General Assembly, also, in the Omnibus Bill, appropriated the money for various positions with the provision that not more than the amount stated should be used, thus allowing some discretion in the amount of pay.

The Civil Service Commission has wide powers in fixing standards and classifications of service, but these powers are so limited by the method of making appropriations that they are of little effect.

Until a careful investigation has been made and a complete system of salaries and standards of employment worked out, it is evident that little can be done toward relieving this condition. It is a subject that should receive the attention of the next General Assembly.

CONSOLIDATION OF LIBRARIES

In the new Centennial Building now under course of construction, provision is being made for the State archives. Consolidation of the various State library agencies is, therefore, an appropriate subject for the consideration of the next General Assembly. During the past three years this question has been discussed frequently, but nothing concrete has been undertaken.

Four libraries are primarily involved in this problem: the State Library, the State Historical Library, the Library Extension Commission and the Library of the State Museum.

The State Law Library is under the jurisdiction of the Supreme Court, is located in the Supreme Court Building and probably should not be disturbed, at least at this time.

The Legislative Reference Bureau is not, strictly speaking, a library, and it might be difficult to fit it into a centralized library organization.

While there is little duplication in the work of the four libraries above mentioned, a closer relation would be advantageous. This is especially true of the State Library and the Library Extension Commission. The legislative purpose in creating the Library Extension Commission was clearly to make it more or less an agency of the State Library. This is evident from the fact that the Secretary of State, by statute librarian of the State Library, is, at the same time, ex-officio chairman of the Library Extension Commission.

The State Historical Library is under the management of three trustees, who must be well versed in the history of the State and qualified by habit and disposition to discharge the duties of this office. They are appointed by the Governor by and with the consent of the Senate. This library is, therefore, at present distinct in its management and is devoted to one specific field. It seeks, in so far as possible, to avoid duplicating the work of the State Library.

Under any circumstances, the consolidation of the State Library and the Library Extension Commission would be advantageous and it seems well at this time to undertake a closer organization of all the library agencies.

An attempt has been made under the Administrative Code to curtail the purchase of reference books by the various departments and to have the State Library buy these books and place them on its shelves so that they will be available not only for the use of the one department but for all the departments. This has resulted in a considerable saving.

Much advantage could be gained also, by the publication of a general catalog including the books in all of the libraries at the State Capitol.

FINANCIAL REPORT

Following are copies of the financial reports of each department under the Code, the Military and Naval Department and the several boards and commissions which report to the Department of Finance, for the fiscal year ending June 30, 1920:

DEPARTMENT OF FINANCE

GENERAL OFFICE

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$28,420	\$22,270	\$6,150
Office expense.....	1,700	1,025	675
Travel.....	2,000	1,430	570
Repairs.....	500	29	471
Equipment.....	1,250	87	1,163
Contingent.....	1,000		1,000
Total.....	\$34,870	\$24,841	\$10,029
Printing.....	7,500	883	6,617
Total.....	\$42,370	\$25,724	\$16,646

TAX COMMISSION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$21,563	\$16,230	\$5,333
Salaries and wages from contingent.....		c 602	
Office expense.....	3,000	2,892	108
Office expense from contingent.....		c 50	
Travel.....	4,000	1,071	2,929
Repairs from contingent.....		c 1,207	
Equipment.....	3,500	4,755	-1,255
Contingent.....	10,000	*(1,859)	8,141
Total.....	\$42,063	\$26,807	\$15,256
Printing.....	20,000	3,756	16,244
Total.....	\$62,063	\$30,563	\$31,500

RECAPITULATION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$49,983	\$38,500	\$11,483
Salaries and wages from contingent.....		c 602	
Office expense.....	4,700	3,917	783
Office expense from contingent.....		c 50	
Travel.....	6,000	2,501	3,499
Repairs.....	500	29	471
Repairs from contingent.....		c 1,207	
Equipment.....	4,750	4,842	-92
Contingent.....	11,000	*(1,859)	9,141
Total.....	\$76,933	\$51,648	\$25,285
Printing.....	27,500	4,639	\$22,861
Total.....	\$104,433	\$56,287	\$48,146

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total.

* Not included in total.

DEPARTMENT OF AGRICULTURE

GENERAL OFFICE

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$13,620	\$9,504	\$4,116
Office expense.....	2,500	822	1,678
Office expense from contingent.....		c 790	
Travel.....	3,500	1,220	2,280
Travel from contingent.....		c 119	
Operation.....	100	25	75
Repairs.....	250	256	—6
Repairs from contingent.....		c 70	
Equipment.....	1,000	303	697
Illinois Farm Commission.....	1,000	257	743
Contingent.....	2,000	*(979)	1,021
Total.....	\$23,970	\$13,366	\$10,604
Printing.....	4,000	1,014	2,986
Total.....	\$27,970	\$14,380	\$13,590

SEED INSPECTION

Receipts from all sources July 1, 1919 to June 30, 1920, \$285.30.			
Salaries and wages.....	\$8,400	\$6,897	\$1,503
Travel.....	3,000	1,509	1,491
Equipment.....	1,250	1,748	—498
Total.....	\$12,650	\$10,154	\$2,496
Printing.....	None.	674	—674
Total.....	\$12,650	\$10,828	\$1,822

GAME AND FISH

Receipts from all sources July 1, 1919 to June 30, 1920, \$236,970.89.			
Salaries and wages.....	\$141,500	\$125,750	\$15,750
Office expense.....	7,000	5,800	1,200
Travel.....	30,000	33,494	—3,494
Operation.....	7,500	8,355	—855
Repairs.....	5,000	3,621	1,379
Equipment.....	7,900	3,536	4,364
Permanent improvements.....	10,000	6,968	3,032
Total.....	\$208,900	\$187,524	\$21,376
Printing.....	8,000	9,224	—1,224
Total.....	\$216,900	\$196,748	\$20,152

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

DEPARTMENT OF AGRICULTURE—Continued

ANIMAL INDUSTRY

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$8,928.50.			
Salaries and wages.....	\$47,705	\$47,612	93
Salaries and wages from tuberculosis eradication re- imbursement.....		c 3,858	
Office expense.....	4,000	3,416	584
Travel.....	6,000	5,999	1
Travel from tuberculosis eradication reimbursement.....		c 1,156	
Operation.....	10,370	1,566	8,804
Repairs.....	150	300	—150
Equipment.....	700	224	476
Slaughtered animals—Tuberculosis eradication reim- bursement.....		c 19,193	
Tuberculosis eradication reimbursement.....	50,000	*(24,207)	25,793
Total.....	\$118,925	\$83,324	\$35,601
Printing.....	3,500	3,971	—471
Total.....	\$122,425	\$87,295	\$35,130

APIARY INSPECTION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$1,275	\$1,017	\$258
Office expense.....	50	9	41
Travel.....	675	478	197
Total.....	\$2,000	\$1,504	496
Printing.....	100	9	91
Total.....	\$2,100	\$1,513	587

PLANT INDUSTRY

Receipts from all sources July 1, 1919 to June 30, 1920, \$20.97.			
Salaries and wages.....	\$8,100	\$7,907	\$193
Office expense.....	400	440	—40
Office expense.....		c 24	
Travel.....	3,500	4,138	—638
Operation.....	450	350	100
Repairs.....	50		50
Equipment.....	2,880	2,277	603
Contingent.....	200	*(24)	176
Total.....	\$15,580	\$15,136	444
Printing.....	260	359	—99
Total.....	\$15,840	\$15,495	345

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total.

* Not included in total.

THE DEPARTMENT OF FINANCE

DEPARTMENT OF AGRICULTURE—Continued

FOODS AND DAIRIES

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$2,164.00.			
Salaries and wages.....	\$95,960	\$70,597	\$25,363
Office expense.....	13,000	9,328	3,672
Travel.....	41,000	25,329	15,671
Operation.....	250	310	—60
Operation from contingent.....		c 2	
Repairs.....	500	189	311
Equipment.....	1,150	319	831
Contingent.....	1,000	*(2)	998
Total.....	\$152,860	\$106,074	\$46,786
Printing.....	1,600	3,406	—1,806
Total.....	\$154,460	\$109,480	\$44,980

DAIRY EXTENSION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$9,200	\$9,132	\$ 68
Office expense.....	1,000	958	42
Travel.....	3,900	4,221	—321
Equipment.....	500	483	17
Contingent.....	400		400
Total.....	\$15,000	\$14,794	206
Printing.....	3,000	686	2,314
Total.....	\$18,000	\$15,480	\$2,520

STATE FAIR

Receipts from all sources July 1, 1919 to June 30, 1920, \$134,678.79.			
Salaries and wages.....	\$ 9,520	\$ 8,542	\$ 978
Salaries and wages from contingent.....		c 1,425	
Office expense.....	4,240	4,023	217
Travel.....	5,000	3,425	1,575
Operation.....	173,700	168,570	5,130
Repairs.....	25,000	24,878	122
County fairs.....	110,000	99,690	10,310
Contingent.....	14,000	*(1,425)	12,575
Total.....	\$341,460	\$310,553	\$30,907
Printing.....		395	—395
Total.....	\$341,460	\$310,948	\$30,512

COUNTY AGRICULTURAL ADVISORS

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$81,600	\$81,600	0
Total.....	\$81,600	\$81,600	0

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

DEPARTMENT OF AGRICULTURE—Concluded

RECAPITULATION

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$383,048.45.			
Salaries and wages.....	\$416,880	\$368,558	\$48,322
Salaries and wages from contingent.....		c 1,425	
Salaries and wages from lump sum.....		c 3,858	
Office expense.....	32,190	24,796	7,394
Office expense from contingent.....		c 814	
Office expense from lump sum.....			
Travel.....	96,575	79,813	16,762
Travel from contingent.....		c 119	
Travel from lump sum.....		c 1,156	
Operation.....	192,370	179,176	13,194
Operation from contingent.....		c 2	
Repairs.....	30,950	29,244	1,706
Repairs from contingent.....		c 70	
Equipment.....	15,380	8,890	6,490
Equipment from contingent.....	10,000	6,968	3,032
Lump sum appropriation.....	50,000	* (24,207)	25,793
Lump sum—county fairs.....	110,000	99,690	10,310
Miscellaneous.....	1,000	257	743
Miscellaneous from lump sum.....		c 19,193	
Contingent.....	17,600	* (2,430)	15,170
Total.....	\$972,945	\$824,029	\$148,916
Printing.....	20,460	19,738	722
Total.....	\$993,405	\$843,767	\$149,638

DEPARTMENT OF LABOR

GENERAL OFFICE

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$9,100	\$8,331	\$ 769
Salaries and wages from contingent.....		c 239	
Office expense.....	1,000	1,007	—7
Travel.....	3,000	3,350	—350
Travel from contingent.....		252	
Repairs.....	100	70	30
Equipment.....	300	293	7
Two additional free employment offices not operating.....	12,400		12,400
Contingent.....	1,000	* (487)	513
Total.....	\$26,900	\$13,538	\$13,362
Printing.....	500	† 945	—445
Total.....	\$27,400	\$14,483	\$12,917

REHABILITATION

Receipts from all sources July 1, 1919 to June 30, 1920, none.	Lump sum appropriation		
Salaries and wages.....	\$5,000	\$1,657	
Office expense.....		800	\$2,522
Travel.....		21	
Total.....	\$5,000	\$2,478	\$2,522

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total. * Not included in total.

† Includes \$272 for additional employment offices.

THE DEPARTMENT OF FINANCE

DEPARTMENT OF LABOR—Continued

CHICAGO FREE EMPLOYMENT OFFICE

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$62,400	\$49,576	\$12,824
Salaries and wages from contingent.....		c 80	
Office expense.....	20,600	14,746	5,854
Travel.....	400	141	259
Operation.....	625	396	229
Repairs.....	500	762	-262
Equipment.....	300	270	30
Contingent.....	550	*(80)	470
Total.....	\$85,375	\$65,971	\$19,404
Printing.....	1,000	902	98
Total.....	\$86,375	\$66,873	\$19,502

EAST ST. LOUIS FREE EMPLOYMENT

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$5,760	\$5,760	
Office expense.....	1,500	1,542	\$ 42
Contingent.....	100		100
Total.....	\$7,360	\$7,302	58
Printing.....	50	73	-23
Total.....	\$7,410	\$7,375	\$35

PEORIA FREE EMPLOYMENT

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$5,960	\$5,960	
Office expense.....	1,500	1,406	\$ 94
Contingent.....	100		100
Total.....	\$7,560	\$7,366	194
Printing.....	50	30	20
Total.....	\$7,610	\$7,396	\$214

ROCKFORD FREE EMPLOYMENT

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$5,760	\$5,760	
Office expense.....	1,200	1,090	\$110
Office expense from contingent.....		c 3	
Operation.....	93	92	1
Equipment.....	0	0	0
Equipment from contingent.....		c 61	
Contingent.....	100	*(64)	36
Total.....	\$7,153	\$7,006	\$147
Printing.....	50	57	-7
Total.....	\$7,203	\$7,063	\$140

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

DEPARTMENT OF LABOR—Continued

ROCK ISLAND—MOLINE FREE EMPLOYMENT

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$5,760	\$5,700	\$ 60
Office expense.....	1,200	969	231
Contingent.....	100		100
Total.....	\$7,060	\$6,669	391
Printing.....	50	47	3
Total.....	\$7,110	\$6,716	\$394

SPRINGFIELD FREE EMPLOYMENT

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$5,760	\$5,760	
Office expense.....	1,500	1,386	\$114
Contingent.....	100		100
Total.....	\$7,360	\$7,146	\$214
Printing.....	50	45	5
Total.....	\$7,410	\$7,191	\$219

GENERAL ADVISORY BOARD

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$3,000	\$2,622	\$378
Office expense.....	350	25	325
Travel.....	1,000	123	877
Total.....	\$4,350	\$2,770	\$1,580
Printing.....	100	6	94
Total.....	\$4,450	\$2,776	\$1,674

PRIVATE EMPLOYMENT AGENCIES

Receipts from all sources July 1, 1919 to June 30, 1920, \$15,225.00.			
Salaries and wages.....	\$15,300	\$15,109	\$191
Office expense.....	2,000	1,654	346
Travel.....	400	242	158
Equipment.....	100		100
Total.....	\$17,800	\$17,005	\$795
Printing.....	250	66	184
Total.....	\$18,050	17,071	979

THE DEPARTMENT OF FINANCE

DEPARTMENT OF LABOR—Continued

INDUSTRIAL COMMISSION

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$2,756.55.			
Salaries and wages.....	\$117,020	\$101,846	\$15,174
Office expense.....	15,220	15,093	127
Travel.....	18,600	16,326	1,674
Operation.....	200	81	119
Repairs.....	200	93	107
Equipment.....	2,000	1,679	321
Total.....	\$152,640	\$135,118	\$17,522
Printing.....	5,000	4,815	185
Total.....	\$157,640	\$139,933	\$17,707

FACTORY INSPECTION

Receipts from all sources July 1, 1919 to June 30, 1920, \$38.38.			
Salaries and wages.....	\$76,080	\$71,484	\$4,596
Office expense.....	8,100	5,563	2,537
Travel.....	15,000	13,474	1,526
Operation.....	300	73	227
Repairs.....	400	335	65
Equipment.....	400	304	96
Total.....	\$100,280	\$91,233	\$9,047
Printing.....	2,000	1,781	219
Total.....	\$102,280	\$93,014	\$9,266

DECATUR FREE EMPLOYMENT

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$4,500	\$4,745	\$-245
Office expense.....	1,235	1,056	179
Operation.....	250	63	187
Repairs.....	12		12
Equipment.....	100	7	93
Contingent.....	100		100
Total.....	\$6,197	\$5,871	326

BLOOMINGTON FREE EMPLOYMENT

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$4,500	\$3,300	\$1,200
Office expense.....	1,235	552	683
Operation.....	250	6	244
Repairs.....	12		12
Equipment.....	100	31	69
Contingent.....	100		100
Total.....	\$6,197	\$3,889	\$2,308

Minus signs indicate amount used in excess of first year's proportion.

DEPARTMENT OF LABOR—Continued

DANVILLE FREE EMPLOYMENT

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages	\$4,500	\$4,435	\$ 65
Office expense	1,237	339	898
Operation	250	12	238
Repairs	12		12
Repairs from contingent		c 55	
Equipment	100	16	84
Contingent	100	* (55)	45
Total	\$6,199	\$4,857	\$1,342

JOLIET FREE EMPLOYMENT

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages	\$4,500	\$4,300	\$200
Office expense	1,238	1,233	5
Operation	250		250
Repairs	12		12
Equipment	100		100
Contingent	100		100
Total	\$6,200	\$5,533	\$667

AURORA FREE EMPLOYMENT

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages	\$4,500	\$3,808	\$692
Office expense	1,238	534	704
Operation	250	3	247
Repairs	12	2	10
Equipment	100	11	89
Contingent	100		100
Total	\$6,200	\$4,358	\$1,842

ADDITIONAL FREE EMPLOYMENT OFFICE (CHICAGO COLORED)

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages	\$4,500	\$3,657	\$843
Office expense	1,238	1,171	67
Operation	250	247	3
Repairs	12		12
Equipment	100	155	—55
Equipment from contingent		c 89	
Contingent	100	* (89)	11
Total	\$6,200	\$5,319	\$881

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total.

* Not included in total.

THE DEPARTMENT OF FINANCE

DEPARTMENT OF LABOR—Concluded

RECAPITULATION

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$18,019.93.			
Salaries and wages.....	\$338,900	\$302,153	\$36,747
Salaries and wages from contingent.....		c 315	
Salaries and wages from lump sum.....		c 1,657	
Office expense.....	61,591	49,366	12,225
Office expense from contingent.....		c 3	
Office expense from lump sum.....		c 800	
Travel.....	37,800	33,657	4,143
Travel from contingent.....		c 252	
Travel from lump sum.....		c 21	
Operation.....	2,718	973	1,745
Repairs.....	1,272	1,262	10
Repairs from contingent.....		c 55	
Equipment.....	3,700	2,766	934
Equipment from contingent.....		c 150	
Lump sum appropriation.....	5,000	*(2,478)	2,522
Miscellaneous.....	12,400		12,400
Contingent.....	2,650	*(775)	1,875
Total.....	\$466,031	\$393,430	\$72,601
Printing.....	9,100	8,767	333
Total.....	\$475,131	\$402,197	\$72,934

DEPARTMENT OF MINES AND MINERALS

GENERAL OFFICE

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$11,780	\$11,703	\$ 77
Salaries and wages from contingent.....		c 204	
Office expense.....	2,210	1,963	247
Office expense from contingent.....		c 384	
Travel.....	3,750	3,072	678
Repairs.....	700	45	655
Equipment.....	400	265	135
Contingent.....	2,500	*(588)	1,912
Total.....	\$21,340	\$17,636	\$3,704
Printing.....	4,500	3,114	1,386
Total.....	\$25,840	\$20,750	\$5,090

INSPECTION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$31,200	\$31,000	\$200
Travel.....	15,000	14,414	586
Repairs.....	350	24	326
Equipment.....		20	—20
Total.....	\$46,550	\$45,458	\$1,092
† Printing.....			

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total. * Not included in total.

† Printing included in general office appropriation.

DEPARTMENT OF MINES AND MINERALS—Concluded

MINE RESCUE STATION.

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$15,200	\$13,971	\$1,229
Office expense.....	1,800	1,592	208
Office expense from contingent.....		c 338	
Travel.....	500	1,546	—1,046
Operation.....	2,900	2,779	121
Operation from contingent.....		c 1,350	
Repairs.....	3,000	2,070	930
Equipment.....	100		100
Contingent.....		*(1,688)	—1,688
Total.....	\$23,500	\$23,646	—146
†Printing.....			

MINERS' EXAMINATION

Receipts from all sources July 1, 1919 to June 30, 1920, \$10,566.00.			
Travel.....	\$4,800	\$4,674	\$126
Total.....	\$4,800	\$4,674	\$126
†Printing.....			

ECONOMIC INVESTIGATION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$2,400	\$2,400	
Travel.....	1,200	1,211	\$—11
Equipment.....	125	123	2
Total.....	\$3,725	\$3,734	\$—9
†Printing.....			

RECAPITULATION

Receipts from all sources July 1, 1919 to June 30, 1920, \$10,566.00.			
Salaries and wages.....	\$60,580	\$59,074	\$1,506
Salaries and wages from contingent.....		c 204	
Office expense.....	4,010	3,555	455
Office expense from contingent.....		c 722	
Travel.....	25,250	24,917	333
Operation.....	2,900	2,779	121
Operation from contingent.....		c 1,350	
Repairs.....	4,050	2,139	1,911
Equipment.....	825	408	217
Contingent.....	\$2,500	*(2,276)	224
Total.....	\$99,915	\$95,148	\$4,767
Printing.....	4,500	3,114	1,386
Total.....	\$104,415	\$98,262	\$6,153

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total. * Not included in total.

† Included in general office appropriation.

DEPARTMENT OF PUBLIC WORKS AND BUILDINGS

EXECUTIVE OFFICE

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$11,500	\$11,500	-----
Salaries and wages from contingent.....		c 208	-----
Office expense.....	1,200	576	\$ 624
Travel.....	3,000	1,954	1,046
Repairs.....	200	69	131
Equipment.....	250	294	—44
Contingent.....	1,000	*(208)	792
Total.....	\$17,150	\$14,601	\$2,549
Printing.....	1,000	541	459
Total.....	\$18,150	\$15,142	\$3,008

EXECUTIVE OFFICE—MISCELLANEOUS

Receipts from all sources July 1, 1919 to June 30, 1920, \$57.60.			
Armory at Danville.....	\$ 20,000	\$ 27,665	\$—7,665
Centennial Memorial Building.....	986,793	336,922	649,871
Ft. Creve Couer.....	500	-----	500
Housing code.....	5,000	-----	5,000
Monument to Edward Coles.....	5,000	-----	5,000
Monument to John M. Palmer.....	10,000	-----	10,000
Monument to Richard Yates.....	10,000	-----	10,000
State House Vandalia.....	60,000	-----	60,000
Novaculite Road Fund.....	125,000	-----	125,000
Total.....	\$1,222,293	\$364,587	\$857,706

PURCHASES AND SUPPLIES

Receipts from all sources July 1, 1919 to June 30, 1920, \$453.15.			
Salaries and wages.....	\$23,580	\$23,035	\$ 545
Office expense.....	5,200	3,720	1,480
Travel.....	3,000	468	2,532
Equipment.....	750	309	441
Total.....	\$32,530	\$27,532	\$4,998
Printing.....	3,000	1,901	1,099
Total.....	\$35,530	\$29,433	\$6,097

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

DEPARTMENT OF PUBLIC WORKS AND BUILDINGS—Continued

ARCHITECTURE

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$41.40.			
Salaries and wages.....	\$24,480	\$21,756	\$2,724
Office expense.....	4,400	4,454	—54
Travel.....	4,500	5,294	—794
Travel from contingent.....		c 101	
Repairs.....	275	211	64
Equipment.....	875	798	77
Contingent.....	1,000	*(101)	899
Total.....	\$35,530	\$32,614	\$2,916
Printing.....	2,300	2,215	85
Total.....	\$37,830	\$34,829	\$3,001

ENGINEERING

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$20,480	\$15,878	\$ 4,602
Office expense.....	3,000	4,082	—1,082
Travel.....	4,000	1,808	2,192
Operation from contingent.....		c 20	
Repairs.....	150	148	2
Equipment.....	1,375	282	1,093
Contingent.....	1,000	*(20)	980
Total.....	\$30,005	\$22,218	\$7,787
Printing.....	950	1,063	—113
Total.....	\$30,955	\$23,281	\$7,674

PARKS

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....			
Salaries and wages from contingent.....		c \$113	
Office expense.....	\$ 50		\$ 50
Travel.....	500	225	275
Operation.....			
Operation from contingent.....		c 256	
Contingent.....	1,000	*(369)	631
Total.....	\$1,550	\$ 594	\$ 956
Printing.....		1,401	—1,401
Total.....	\$1,550	\$1 995	\$—445

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

DEPARTMENT OF PUBLIC WORKS AND BUILDINGS—Continued

PARKS—LINCOLN MONUMENT

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$2,605	\$2,443	\$ 162
Office expense.....	200	296	—96
Operation.....	650	613	37
Repairs.....	2,050	1,683	367
Permanent improvements.....	1,500		1,500
Total.....	7,005	5,035	1,970
Printing.....	50	269	—219
Total.....	\$7,055	\$5,304	\$1,751

PARKS—LINCOLN HOMESTEAD

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$1,500	\$1,500	0
Salaries and wages from contingent.....		c 160	
Office expense.....	130	157	\$—27
Operation.....	230	261	—31
Repairs.....	500	567	—67
Contingent.....	150	*(160)	—10
Total.....	\$2,510	\$2,645	—135
Printing.....	10		10
Total.....	\$2,520	\$2,645	—125

PARKS—FORT MASSAC

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$960	\$916	\$44
Office expense.....	125	88	37
Operation.....	200	173	27
Repairs.....	150	156	—6
Total.....	\$1,435	\$1,333	\$102
Printing.....	10		10
Total.....	\$1,445	\$1,333	\$112

PARKS—STARVED ROCK

Receipts from all sources July 1, 1919 to June 30, 1920, \$9,064.47.			
Salaries and wages.....	\$2,500	\$2,515	\$ —15
Salaries and wages from contingent.....		c 88	
Office expense.....	100	134	—34
Operation.....	150	279	—129
Operation from contingent.....		c 815	
Repairs.....	3,600	6,314	—2,714
Repairs from contingent.....		c 96	
Permanent improvements.....	30,000	25,270	4,730
Contingent.....	1,000	*(999)	1
Total.....	\$37,350	\$35,511	\$1,839
Printing.....	20	24	—4
Total.....	\$37,370	\$35,535	\$1,835

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

DEPARTMENT OF PUBLIC WORKS AND BUILDINGS—Continued

PARKS—FORT CHARTRES

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Permanent improvements.....	\$12,054	\$12,039	\$15
Total.....	\$12,054	\$12,039	\$15

PARKS—DOUGLAS MONUMENT

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$ 1,200	\$ 67	\$1,133
Permanent improvements.....	15,000	7,144	7,856
Total.....	\$16,200	\$7,211	\$8,989

PARKS—OLD SALEM

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$ 1,200	\$ 220	-\$ 980
Office expense.....	300	18	282
Operation.....	700		700
Equipment.....	300	3	297
Permanent improvement.....	25,000	2,113	22,887
Total.....	\$27,500	\$2,354	\$25,146

PRINTING

Receipts from all sources July 1, 1919 to June 30, 1920, \$551.00.			
Salaries and wages.....	\$25,200	\$25,821	\$—621
Salaries and wages from contingent.....		* c 618	
Office expense.....	1,400	1,294	106
Travel.....	250	91	159
Repairs.....	350	395	—45
Equipment.....	750	823	—73
Contingent.....	1,000	*(618)	382
Total.....	\$28,950	\$29,042	—92
Printing.....	1,500	1,444	56
Total.....	\$30,450	\$30,486	—36
Printing, binding, paper, etc.....	\$408,130	\$317,685	\$90,445

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

DEPARTMENT OF PUBLIC WORKS AND BUILDINGS—Continued

WATERWAYS—GENERAL OFFICE

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$ 1,800	\$1,800	-----
Office expense.....	3,500	4,149	\$-649
Travel.....	3,000	2,328	672
Equipment.....	250	156	94
Removing tax deeds.....	4,279	4,279	-----
Special assessment.....	4,263	4,263	-----
Flood waters and sewage.....	11,000	6,948	4,052
Contingent.....	1,000	-----	1,000
Total.....	\$29,092	\$23,923	\$5,169
Printing.....	1,000	1,067	-67
Total.....	\$30,092	\$24,990	\$5,102

WATERWAYS—ENGINEERING SERVICES

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$50,000	\$46,337	\$3,663
Office expense.....	2,000	1,659	341
Travel.....	5,000	2,271	2,729
Operation.....	0	369	-369
Repairs.....	13,000	5,414	7,586
Equipment.....	0	4,658	-4,658
Total.....	\$70,000	\$60,708	\$9,292
† Printing.....	-----	-----	-----
Total.....	\$70,000	\$60,708	\$9,292

WATERWAYS—STREAM GAUGING

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$2,500	\$3,000	\$-500
Office expense.....	0	17	-17
Travel.....	1,000	603	397
Total.....	\$3,500	\$3,620	\$-120
† Printing.....	-----	-----	-----

WATERWAYS—MAINTENANCE OF NAVIGATION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$5,000	\$8,989	\$-3,989
Office expense.....	0	59	-59
Travel.....	0	417	-417
Operation.....	2,000	222	1,778
Repairs.....	8,000	1,809	6,191
Total.....	\$15,000	\$11,496	\$3,504
† Printing.....	-----	-----	-----

Minus signs indicate amount used in excess of first year's proportion.

† Entire printing shown under general office of Waterway Division.

‡ Lump sum appropriation, divided by department.

DEPARTMENT OF PUBLIC WORKS AND BUILDINGS—Continued

WATERWAYS—SURVEYS AND INVESTIGATIONS

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$10,000	\$21,177	\$—11,177
Office expense.....	0	1,249	—1,249
Travel.....	5,000	3,136	1,864
Operation.....	0	1	—1
Repairs.....	15,000	125	14,875
Equipment.....	0	294	—294
Total.....	\$30,000	\$25,982	\$4,018
†Printing.....			

WATERWAYS—ILLINOIS AND MICHIGAN CANAL

Receipts from all sources July 1, 1919 to June 30, 1920, \$36,581.30.			
Salaries and wages.....	\$30,000	\$23,780	\$6,220
Office expense.....	6,000	1,523	4,477
Travel.....	2,400	2,049	351
Operation.....	2,400	853	1,547
Repairs.....	3,600	3,906	—306
Equipment.....	5,600	8	5,592
Total.....	\$50,000	\$32,119	\$17,881
†Printing.....			

HIGHWAYS

Receipts from all sources July 1, 1919 to June 30, 1920, \$27,152.61.			
Salaries and wages.....	\$41,540	\$40,234	\$1,306
Office expense.....	22,000	20,900	1,100
Travel.....	15,000	20,900	—5,900
Operation.....	3,500	3,109	391
Repairs.....	6,350	1,912	4,438
Equipment.....	3,700	5,723	—2,023
Total.....	\$92,090	\$92,778	—688
Printing.....	15,000	13,023	1,977
Total.....	\$107,090	\$105,801	\$1,289
Expenditures for roads—			
State aid road fund.....		\$ 637,652	
Federal aid road fund.....		6,970,704	
Total.....		\$7,608,356	

Minus signs indicate amount used in excess of first year's proportion.

† Entire printing shown under general office of Waterway Division.

‡ Lump sum appropriation, divided by department.

DEPARTMENT OF PUBLIC WORKS AND BUILDINGS—Continued

RECAPITULATION

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$73,901.62.			
Salaries and wages.....	\$ 256,045	\$250,968	\$ 5,077
Salaries and wages from contingent.....		c 1,187	
Office expense.....	49,605	44,375	5,230
Travel.....	46,650	41,544	5,106
Travel from contingent.....		c 101	
Operation.....	9,830	5,880	3,950
Operation from contingent.....		c 1,091	
Repairs.....	53,225	22,709	30,516
Repairs from contingent.....		c 96	
Equipment.....	13,850	13,348	502
Permanent improvements.....	208,554	46,566	161,988
Buildings.....	1,097,293	364,587	732,706
Miscellaneous.....	19,542	15,490	4,052
Contingent.....	7,150	* (2,475)	4,675
Total.....	\$1,761,744	\$807,942	\$953,802
Printing.....	24,840	22,948	1,892
Total.....	\$1,786,584	\$830,890	\$955,694
Printing, binding, paper, etc.....	\$408,130	\$317,685	\$90,445
Expenditures for roads—			
State aid road fund.....		\$ 637,652	
Federal aid road fund.....		6,970,704	
Total.....		\$7,608,356	

Minus signs indicate amount used in excess of first year's proportion
 "c" Included in total. * Not included in total.

PRINTING

The printing, binding and stationery supplies appropriation was made by the General Assembly to the Department of Public Works and Buildings for the Superintendent of Printing in the amount of \$816,260 for the biennium. Apportioning one-half of this to the first year would give the following results:

Appropriation.	Bills Paid.	Amount Unused.
\$408,130	\$317,685	\$90,445

The General Assembly also made provision whereby the elective officers, courts, departments and boards were apportioned certain sums out of the total printing appropriation. The following table shows, in the first column, the amount apportioned for the first year (one-half of the total appropriation); "Amount Charged" is the printing, stationery, etc., that has been charged against this apportionment and the third column shows the amount unused by the different officers, etc., at the close of the first year. The difference between the "Bills Paid" in the above and the "Amount Charged" to the different officers, etc., in the following table, represents additions to stock on hand not yet distributed:

DEPARTMENT OF PUBLIC WORKS AND BUILDINGS—Concluded.

Department.	Apportioned for first year.	Amount charged.	Amount unused.
Adjutant General.....	\$ 6,500	\$ 2,767	\$ 3,733
Agriculture.....	20,460	19,738	722
Appellate Court, 1st District.....	1,400	1,335	65
Appellate Court, 2d District.....	400	274	126
Appellate Court, 3d District.....	800	401	399
Appellate Court, 4th District.....	330	615	—285
Attorney General.....	12,500	9,888	2,612
Auditor Public Accounts.....	25,000	14,680	10,320
Civil Service.....	5,000	1,568	3,432
Farmers' Institute.....	16,000	7,198	8,802
Finance.....	13,750	4,639	9,111
Governor.....	1,000	1,775	—775
Historical Library.....	10,200	2,865	7,335
Illinois Teachers' Association.....	2,500	-----	2,500
Labor.....	9,100	8,693	407
Library—State.....	2,000	322	1,678
Library Extension Commission.....	1,000	1,086	—86
Legislative Reference Bureau.....	5,500	725	4,775
Lieutenant Governor.....	250	8	242
Mines and Minerals.....	4,500	3,114	1,386
Public Health.....	17,500	13,146	4,354
Public Welfare.....	30,000	28,535	1,465
Public Works and Buildings.....	24,840	22,947	1,893
Registration and Education.....	29,100	16,821	12,279
Secretary of State.....	87,500	89,829	—2,329
Clerk of Supreme Court.....	2,200	1,382	818
Superintendent Public Instruction.....	30,000	15,578	14,422
Trade and Commerce.....	45,250	28,924	16,326
Treasurer.....	3,000	1,564	1,436
Uniform Laws Commission.....	200	-----	200
Pension Laws Commission.....	350	650	—300
Total.....	\$408,130	\$301,067	\$107,063

NOTE.—The apportionment for the first year, bills passed for the first year and the unused amount for the Code Departments, Military and Naval Department and Boards and Commissions are shown in the report of each division and department.

DEPARTMENT OF PUBLIC WELFARE

GENERAL OFFICE

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$179,27.			
Salaries and wages.....	\$49,720	\$35,784	\$13,936
Office expense.....	4,200	2,032	2,168
Travel.....	10,000	10,643	—643
Operation.....	175	-----	175
Repairs.....	1,100	622	478
Equipment.....	1,700	130	1,570
Rehabilitation survey.....	10,000	2,658	7,342
Excess cost education deaf, blind and dumb children	194,780	950	193,830
Total.....	\$271,675	\$52,819	\$218,856
Printing.....	15,276	4,674	10,602
Total.....	\$286,951	\$57,493	\$229,458

Minus signs indicate amount used in excess of first year's proportion.

THE DEPARTMENT OF FINANCE

DEPARTMENT OF PUBLIC WELFARE—Continued

ELGIN STATE HOSPITAL

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$3,728.64.			
Salaries and wages.....	\$190,180	\$179,191	\$10,989
Office expense.....	2,800	1,978	822
Travel.....	3,000	1,147	1,853
Travel from contingent.....		c 13	
Operation.....	229,889	282,972	—53,083
Operation from contingent.....		c 120	
Repairs.....	40,098	36,807	3,291
Equipment.....	5,250	1,704	3,546
Permanent improvements.....	157,500	7,562	149,938
Contingent.....	1,000	*(133)	867
Total.....	\$629,717	\$511,494	\$118,223
Printing.....	700	667	33
Total.....	\$630,417	\$512,161	\$118,256

KANKAKEE STATE HOSPITAL

Receipts from all sources July 1, 1919 to June 30, 1920, \$8,396.82.			
Salaries and wages.....	\$293,508	\$287,672	\$ 5,836
Office expense.....	4,350	2,840	1,510
Travel.....	5,570	894	4,676
Travel from contingent.....		c 168	
Operation.....	392,992	507,010	—114,018
Operation from contingent.....		c 129	
Repairs.....	102,979	99,530	3,449
Repairs from contingent.....		c 4	
Equipment.....	4,960	4,632	328
Equipment from contingent.....		c 66	
Permanent improvements.....	30,800	5,635	25,165
Contingent.....	1,000	*(367)	633
Total.....	\$836,159	\$908,580	\$—72,421
Printing.....	900	1,619	—719
Total.....	\$837,059	\$910,199	\$—73,140

STATE PSYCHOPATHIC INSTITUTE

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$108,276	\$59,512	\$48,764
Office expense.....	800	1,082	—282
Office expense from contingent.....		c 26	
Travel.....	1,500	1,713	—213
Travel from contingent.....		c 3	
Operation.....	1,950	306	1,644
Operation from contingent.....		c 50	
Repairs.....	600	11	589
Equipment.....	1,300	1,311	—11
Contingent.....	500	*(79)	421
Total.....	\$114,926	\$64,014	\$50,912
Printing.....	450	684	—234
Total.....	\$115,376	\$64,698	\$50,678

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

DEPARTMENT OF PUBLIC WELFARE—Continued

JACKSONVILLE STATE HOSPITAL

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$12,235.71.			
Salaries and wages.....	\$187,661	\$185,167	\$ 2,494
Office expense.....	2,600	1,798	802
Travel.....	3,000	1,022	1,978
Travel from contingent.....		c 5	
Operation.....	214,182	255,510	—41,328
Operation from contingent.....		c 164	
Repairs.....	33,244	29,237	4,007
Repairs from contingent.....		c 13	
Equipment.....	3,325	3,239	86
Permanent improvements.....	53,000	9,407	43,593
Land.....	40,000		40,000
Contingent.....	1,000	*(182)	818
Total.....	\$538,012	\$485,562	\$52,450
Printing.....	900	975	—75
Total.....	\$538,912	\$486,537	\$52,375

ANNA STATE HOSPITAL

Receipts from all sources July 1, 1919 to June 30, 1920, \$7,464.66.			
Salaries and wages.....	\$183,852	\$177,070	\$ 6,782
Office expense.....	2,600	1,786	814
Office expense from contingent.....		c 1	
Travel.....	2,900	414	2,486
Travel from contingent.....		c 91	
Operation.....	211,067	248,264	—37,197
Operation from contingent.....		c 89	
Repairs.....	31,296	34,161	—2,865
Repairs from contingent.....		c 14	
Equipment.....	2,450	2,110	340
Permanent improvements.....	118,000	271	117,729
Contingent.....	1,000	*(195)	805
Total.....	\$553,165	\$464,271	\$88,894
Printing.....	700	1,010	—310
Total.....	\$553,865	\$465,281	\$88,584

WATERTOWN STATE HOSPITAL

Receipts from all sources July 1, 1919 to June 30, 1920, \$5,651.31.			
Salaries and wages.....	\$165,839	\$163,187	\$ 2,652
Office expense.....	2,000	1,082	918
Travel.....	2,840	425	2,415
Travel from contingent.....		c 68	
Operation.....	190,877	230,799	—39,922
Operation from contingent.....		c 98	
Repairs.....	29,096	23,171	5,925
Equipment.....	750	859	—109
Equipment from contingent.....		c 33	
Permanent improvements.....	72,500	3,007	69,493
Contingent.....	1,000	*(199)	801
Total.....	\$464,902	\$422,729	\$42,173
Printing.....	600	625	—25
Total.....	\$465,502	\$423,354	\$42,148

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

DEPARTMENT OF PUBLIC WELFARE—Continued

PEORIA STATE HOSPITAL

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$3,259.38.			
Salaries and wages.....	\$202,320	\$193,261	\$ 9,059
Office expense.....	2,700	1,217	1,483
Office expense from contingent.....		c 6	
Travel.....	2,768	154	2,614
Travel from contingent.....		c 61	
Operation.....	319,636	338,629	—18,993
Operation from contingent.....		c 133	
Working capital.....			
Repairs.....	50,902	50,634	269
Repairs from contingent.....		c 3	
Equipment.....	4,700	2,375	2,325
Equipment from contingent.....		c 14	
Permanent improvements.....	9,300	2,956	6,344
Contingent.....	1,000	*(217)	783
Total.....	\$593,327	\$589,443	\$3,884
Printing.....	600	608	—8
Total.....	\$593,927	\$590,051	\$3,876

CHESTER STATE HOSPITAL

Receipts from all sources July 1, 1919 to June 30, 1920, \$306.91.			
Salaries and wages.....	\$24,190	\$24,521	\$ —331
Office expense.....	400	289	111
Travel.....	100	99	1
Travel from contingent.....		c 172	
Operation.....	20,200	35,494	—15,294
Operation from contingent.....		c 40	
Repairs.....	2,776	2,422	354
Equipment.....	300	6	294
Contingent.....	500	*(212)	288
Total.....	\$48,466	\$63,043	\$—14,577
Printing.....	100	146	—46
Total.....	\$48,566	\$63,189	\$—14,623

CHICAGO STATE HOSPITAL

Receipts from all sources July 1, 1919 to June 30, 1920, \$4,301.81.			
Salaries and wages.....	\$289,059	\$271,156	\$17,903
Office expense.....	4,700	5,222	—522
Office expense from contingent.....		c 44	
Travel.....	3,400	1,419	1,981
Travel from contingent.....		c 15	
Operation.....	399,826	457,643	—57,817
Operation from contingent.....		c 340	
Repairs.....	94,613	89,479	5,134
Repairs from contingent.....		c 11	
Equipment.....	4,500	4,965	—465
Permanent improvements.....	158,400	51,313	107,087
Contingent.....	1,000	*(410)	590
Total.....	\$955,498	\$881,607	\$73,891
Printing.....	1,900	1,168	732
Total.....	\$957,398	\$882,775	\$74,623

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total.

* Not included in total.

DEPARTMENT OF PUBLIC WELFARE—Continued

ALTON STATE HOSPITAL

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$6,248.70.			
Salaries and wages.....	\$ 81,380	\$ 68,302	\$ 13,078
Office expense.....	1,800	699	1,101
Travel.....	1,500	296	1,204
Travel from contingent.....		c 199	
Operation.....	164,220	107,870	56,350
Operation from contingent.....		c 145	
Repairs.....	25,694	23,250	2,444
Repairs from contingent.....		c 27	
Equipment.....	21,600	9,668	11,932
Permanent improvements.....	510,600	27,952	482,648
Contingent.....	1,000	*(371)	629
Total.....	\$807,794	\$238,408	\$569,386
Printing.....	700	690	10
Total.....	\$808,494	\$239,098	\$569,396

DIXON STATE HOSPITAL

Receipts from all sources July 1, 1919 to June 30, 1920, \$3,804.41.			
Salaries and wages.....	\$ 68,620	\$45,624	\$ 22,996
Office expense.....	1,200	544	656
Office expense from contingent.....		c 8	
Travel.....	1,600	191	1,409
Travel from contingent.....		c 61	
Operation.....	35,000	70,674	—35,674
Operation from contingent.....		c 75	
Repairs.....	19,068	14,688	4,380
Repairs from contingent.....		c 1	
Equipment.....	7,940	7,410	530
Permanent improvements.....	294,500	13,656	280,844
Contingent.....	1,000	*(145)	855
Total.....	\$428,928	\$152,932	\$275,996
Printing.....	300	387	—87
Total.....	\$429,228	\$153,319	\$275,909

Minus signs indicate amount used in excess of first year's proportion
 "c" Included in total. * Not included in total.

DEPARTMENT OF PUBLIC WELFARE—Continued

LINCOLN STATE SCHOOL AND COLONY

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$83,241.99.			
Salaries and wages.....	\$198,676	\$180,242	\$ 18,434
Office expense.....	2,200	1,099	1,101
Office expense from contingent.....		c 17	
Travel.....	1,500	477	1,023
Travel from contingent.....		c 28	
Operation.....	279,267	322,823	—43,556
Operation from contingent.....		c 188	
Repairs.....	43,339	42,870	469
Repairs from contingent.....		c 36	
Equipment.....	5,690	6,294	—604
Equipment from contingent.....		c 7	
Permanent improvements.....	112,969	56,180	56,789
Contingent.....	1,000	* (276)	724
Total.....	\$644,641	\$610,261	\$34,380
Printing.....	800	656	144
Total.....	\$645,441	\$610,917	\$34,524
	Receipts for first year.	Bills paid and unpaid— first year.	Amount unused for first year June 30, 1920.
Working capital revolving fund.....	\$4,479	\$2,655	\$1,824

DIXON STATE COLONY

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Permanent improvements.....	\$505,000	\$42,114	\$462,886
Contingent.....	1,000		1,000
Total.....	\$506,000	\$42,114	\$463,886

SCHOOL FOR THE DEAF

Receipts from all sources July 1, 1919 to June 30, 1920, \$4,262.69.			
Salaries and wages.....	\$106,484	\$114,809	\$ —8,325
Office expense.....	600	615	—15
Travel.....	1,550	974	576
Operation.....	45,206	73,620	—28,414
Operation from contingent.....		c 142	
Repairs.....	18,496	16,778	1,718
Repairs from contingent.....		c 19	
Equipment.....	1,400	1,317	83
Contingent.....	1,000	* (161)	839
Total.....	\$174,736	\$208,274	\$ —33,538
Printing.....	200	370	—170
Total.....	\$174,936	\$208,644	\$ —33,708

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

DEPARTMENT OF PUBLIC WELFARE—Continued.

SCHOOL FOR THE BLIND

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$4,749.16.			
Salaries and wages.....	\$64,379	\$63,931	\$ 448
Office expense.....	1,400	816	584
Travel.....	1,550	1,646	—96
Operation.....	29,225	36,846	—7,621
Operation from contingent.....		c 40	
Repairs.....	13,219	9,040	4,179
Equipment.....	2,300	1,748	552
Permanent improvements.....	1,000		1,000
Contingent.....	500	*(40)	460
Total.....	\$113,573	\$114,067	\$—494
Printing.....	360	424	—64
Total.....	\$113,933	\$114,491	\$—558

ILLINOIS INDUSTRIAL HOME FOR BLIND

Receipts from all sources July 1, 1919 to June 30, 1920, \$51,240.97.			
Salaries and wages.....	\$19,706	\$17,510	\$ 2,196
Office expense.....	800	556	244
Office expense from contingent.....		c 2	
Travel.....	100	34	66
Operation.....	17,693	16,234	1,459
Operation from contingent.....		c 66	
Working capital.....	64,600	58,328	6,272
Working capital from contingent.....		c 5	
Repairs.....	5,296	686	4,610
Repairs from contingent.....		c 23	
Equipment.....	2,600	178	2,422
Permanent improvements.....	4,200		4,200
Rent, etc.....	15,000		15,000
Contingent.....	500	*(96)	404
Total.....	\$130,495	\$93,622	\$36,873
Printing.....	100	39	61
Total.....	\$130,595	\$93,661	\$36,934
Working capital revolving fund (Receipts).....	\$50,303 48		\$50,303 48

ILLINIOS SOLDIERS' AND SAILORS' HOME

Receipts from all sources July 1, 1919 to June 30, 1920, \$25,372.92.			
Salaries and wages.....	\$123,724	\$127,236	\$ —3,512
Office expense.....	1,250	611	639
Travel.....	250	202	48
Travel from contingent.....		c 17	
Operation.....	162,533	177,715	—15,182
Operation from contingent.....		c 209	
Repairs.....	28,896	29,993	—1,098
Repairs from contingent.....		c 11	
Equipment.....	4,600	2,447	2,153
Permanent improvements.....	4,000		4,000
Contingent.....	1,000	*(237)	763
Total.....	\$326,252	\$338,441	\$—12,189
Printing.....	250	980	—730
Total.....	\$326,502	\$339,421	\$—12,919

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

DEPARTMENT OF PUBLIC WELFARE—Continued.

ILLINOIS SOLDIERS' WIDOWS' HOME

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$100.76.			
Salaries and wages.....	\$18,400	\$16,674	\$ 1,726
Office expense.....	500	307	193
Office expense from contingent.....		c 24	
Travel.....	200	151	49
Operation.....	16,808	20,183	—3,375
Operation from contingent.....		c 41	
Repairs.....	9,070	3,065	6,005
Repairs from contingent.....		c 9	
Equipment.....	350	237	113
Contingent.....	500	* (74)	426
Total.....	\$45,828	\$40,621	\$5,137
Printing.....	100	65	35
Total.....	\$45,928	\$40,756	\$5,172

ILLINOIS SOLDIERS' ORPHANS' HOME

Receipts from all sources July 1, 1919 to June 30, 1920, \$466.48.			
Salaries and wages.....	\$ 64,136	\$ 66,906	\$ —2,770
Office expense.....	1,200	802	398
Travel.....	700	472	228
Travel from contingent.....		c 74	
Operation.....	75,118	103,539	—28,421
Operation from contingent.....		c 75	
Repairs.....	17,767	19,326	—1,559
Equipment.....	700	407	293
Permanent improvements.....	112,500	1,318	111,182
Contingent.....	1,000	* (149)	851
Total.....	\$273,121	\$192,919	\$80,202
Printing.....	100	186	—86
Total.....	\$273,221	\$193,105	\$80,116

ILLINOIS CHARITABLE EYE AND EAR INFIRMARY

Receipts from all sources July 1, 1919 to June 30, 1920, \$18,377.			
Salaries and wages.....	\$ 51,887	\$50,263	\$ 1,624
Office expense.....	1,275	1,131	144
Office expense from contingent.....		c 5	
Travel.....	5,100	762	4,338
Travel from contingent.....		c 7	
Operation.....	37,635	43,922	—6,287
Operation from contingent.....		c 66	
Repairs.....	4,243	4,601	—358
Repairs from contingent.....		c 8	
Equipment.....	30,100	2,000	28,100
Permanent improvements.....	360,000	9,795	350,205
Contingent.....	500	* (86)	414
Total.....	\$490,740	\$112,560	\$378,180
Printing.....	125	377	—252
Total.....	\$490,865	\$112,937	\$377,928
Working capital revolving fund.....	\$18,310	\$13,696	\$4,614
	Receipts for first year.	Bills paid and unpaid— first year	Amount unused for first year June 30, 1920.

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total.

* Not included in total.

DEPARTMENT OF PUBLIC WELFARE—Continued.

STATE TRAINING SCHOOL FOR GIRLS

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$1,959.46.			
Salaries and wages.....	\$68,836	\$69,777	\$ —941
Office expense.....	1,600	1,499	101
Office expense from contingent.....		c 15	
Travel.....	5,110	2,286	2,824
Travel from contingent.....		c 61	
Operation.....	71,368	93,680	—22,312
Operation from contingent.....		c 117	
Repairs.....	20,700	19,699	1,001
Repairs from contingent.....		c 54	
Equipment.....	10,200	2,536	7,664
Permanent improvements.....	60,100	7,081	53,019
Contingent.....	1,000	*(247)	753
Total.....	\$238,914	\$196,805	\$42,109
Printing.....	200	894	—694
Total.....	\$239,114	\$197,699	\$41,415

ST. CHARLES SCHOOL FOR BOYS

Receipts from all sources July 1, 1919 to June 30, 1920, \$3,226.41.			
Salaries and wages.....	\$ 93,794	\$105,789	\$—11,995
Office expense.....	3,000	2,466	534
Travel.....	1,600	2,565	—965
Travel from contingent.....		c 81	
Operation.....	169,466	205,505	—36,039
Operation from contingent.....		c 184	
Repairs.....	30,816	41,844	—11,028
Repairs from contingent.....		c 13	
Equipment.....	14,050	12,294	1,756
Repairs and replacements for laundry building.....	5,447	260	5,187
Permanent improvements.....	65,300	5,150	60,150
Smoke stack.....	7,000	1,348	5,652
Farm cottage.....	9,000	259	8,741
Contingent.....	1,000	*(278)	722
Total.....	\$400,473	\$377,758	\$22,715
Printing.....	275	1,223	—948
Total.....	\$400,748	\$378,981	\$21,767

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total.

* Not included in total.

DEPARTMENT OF PUBLIC WELFARE—Continued

ILLINOIS STATE PENITENTIARY

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$336,473.13.	.		
Salaries and wages.....	\$146,880	\$135,873	\$ 11,007
Office expense.....	5,300	2,605	2,695
Office expense from contingent.....		c 50	
Travel.....	3,275	1,250	2,025
Travel from contingent.....		c 42	
Operation.....	311,182	353,968	—42,786
Operation from contingent.....		c 86	
Working capital.....	50,000	50,000	
Repairs.....	34,772	29,237	5,535
Equipment.....	8,745	6,276	2,469
Permanent improvements.....	13,250	1,180	12,070
Contingent.....	1,000	*(178)	822
Total.....	\$574,404	\$580,567	\$—6,163
Printing.....	1,200	2,092	—892
Total.....	\$575,604	\$582,659	\$—7,055
†Emergency No. 2.....		3,900	
†Emergency No. 3.....		†362	
		\$586,921	
	Receipts for first year.	Bills paid and unpaid— first year.	Amount unused for first year— June 30, 1920.
Working capital revolving fund.....	\$330,240	\$218,511	\$111,729

SOUTHERN ILLINOIS PENITENTIARY

Receipts from all sources July 1, 1919 to June 30, 1920, \$250,576.85.			
Salaries and wages.....	\$110,680	\$100,188	\$ 10,492
Office expense.....	3,700	2,675	1,025
Travel.....	3,150	473	2,677
Travel from contingent.....		c 76	
Operation.....	212,373	235,404	—23,031
Operation from contingent.....		c 82	
Working capital.....	50,000	50,000	
Working capital from contingent.....		c 21	
Repairs.....	27,077	25,862	1,215
Equipment.....	10,310	1,251	9,059
Permanent improvements.....	8,600	2,500	6,100
Limestone crusher.....	125,000	24,246	100,654
Land.....	40,000	40,000	
Land from contingent.....		c 617	
Contingent.....	1,000	*(796)	204
Total.....	\$591,890	\$483,495	\$108,395
Printing.....	1,100	1,610	—510
Total.....	\$592,990	\$485,105	\$107,885
	Receipts for first year.	Bills paid and unpaid— first year.	Amount unused first year— June 30, 1920.
Working capital revolving fund.....	\$242,773	\$209,943	\$32,830

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total. * Not included in total.

† Appropriations from which these amounts were paid were included in the 50th General Assembly figures given in Department of Finance Second Annual Report of June 30, 1919, under Illinois State Penitentiary Division.

DEPARTMENT OF PUBLIC WELFARE—Continued

ILLINOIS STATE REFORMATORY

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920. \$120,520.23.			
Salaries and wages.....	\$108,000	\$ 95,712	\$ 9,348
Office expense.....	3,411	3,704	—293
Travel.....	2,900	783	2,118
Operation.....	208,888	223,997	—14,311
Operation from contingent.....		c 149	
Working capital.....	50,000	50,000	
Repairs.....	26,881	27,779	—898
Equipment.....	900	803	337
Permanent improvements.....	71,020	19,280	51,740
Contingent.....	1,000	*(149)	851
Total.....	\$469,858	\$420,986	\$48,802
Printing.....	389	4,016	—3,629
Total.....	\$470,247	\$424,984	\$45,263
	Receipts for first year.	Bills paid and unpaid— first year.	Amount unused first year— June 30, 1920.
Working capital revolving fund.....	\$117,976	\$39,788	\$78,190

WOMEN'S PRISON

Receipts from all sources July 1, 1919 to June 30, 1920. \$348.29.			
Salaries and wages.....	\$10,998	\$ 8,306	\$ 2,693
Office expense.....	100	168	—68
Office expense from contingent.....		c 18	
Travel.....	200	141	59
Operation.....	6,280	10,771	—4,571
Operation from contingent.....		c 107	
Repairs.....	2,360	2,524	—164
Repairs from contingent.....		c 4	
Contingent.....	500	*(126)	374
Total.....	\$20,358	\$22,127	\$—1,769
Printing.....	100	423	—323
Total.....	\$20,458	\$22,550	\$—2,092

ILLINOIS STATE FARM

Receipts from all sources July 1, 1919 to June 30, 1920. note			
Operation.....			
Operation from contingent.....		\$ c 75	
Permanent improvements.....	\$150,000	\$ 391	\$149,609
Land.....	180,000	93,411	86,589
Contingent.....	1,000	*(126)	874
Total.....			\$149,609
Printing.....			100
Total.....	\$251,100	\$102,377	

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

THE DEPARTMENT OF FINANCE

DEPARTMENT OF PUBLIC WELFARE—Continued

PARDONS AND PAROLES

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$63,660	\$54,325	\$9,335
Office expense.....	4,700	1,792	2,908
Travel.....	28,200	19,816	8,384
Equipment.....	800	745	55
Total.....	\$97,360	\$76,678	\$20,682
Printing.....	1,000	1,104	—104
Total.....	\$98,360	\$77,782	\$20,578

VISITATION OF CHILDREN

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$16,900	\$14,097	\$2,803
Office expense.....	900	727	173
Travel.....	12,000	8,943	3,057
Repairs.....	250	138	112
Equipment.....	175	178	—3
Total.....	\$30,225	\$24,083	\$6,142
Printing.....	150	324	—174
Total.....	\$30,375	\$24,407	\$5,968

VISITATION ADULT BLIND

Receipts from all sources July 1, 1919 to June 30, 1920, \$21.00.			
Salaries and wages.....	\$7,000	\$5,410	\$1,590
Office expense.....	480	499	—19
Travel.....	1,500	1,500	—
Operation.....	1,500	1,504	—4
Repairs.....	60	34	26
Equipment.....	220	211	9
Total.....	\$10,760	\$9,158	\$1,602
Printing.....	125	122	3
Total.....	\$10,885	\$9,280	\$1,605

WELFARE COMMISSIONERS

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$6,850	\$6,195	\$655
Office expense.....	1,000	525	475
Travel.....	4,000	3,819	181
Equipment.....	400	136	264
Total.....	\$12,250	\$10,675	\$1,575
Printing.....	100	374	—274
Total.....	\$12,350	\$11,049	\$1,301

Minus signs indicate amount used in excess of first year's proportion.

DEPARTMENT OF PUBLIC WELFARE—Concluded.

PSYCHOPATHIC HOSPITAL

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Repairs.....	\$ 16,000	-----	\$ 16,000
Permanent improvements.....	100,000	-----	100,000
Land.....	225,000	\$220,000	5,000
Contingent.....	500	-----	500
Total.....	\$341,500	\$220,000	\$121,500
Printing.....	100	-----	100
Total.....	\$341,600	\$220,000	\$121,600

ILLINOIS SURGICAL INSTITUTE FOR CHILDREN

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Permanent improvements.....	\$150,000	-----	\$150,000
Land.....	50,000	50,000	-----
Total.....	\$200,000	\$50,000	\$150,000

RECAPITULATION

Receipts from all sources July 1, 1919 to June 30, 1920, \$956,514.96.			
Salaries and wages.....	\$3,122,655	\$2,923,779	\$198,876
Office expense.....	63,566	43,166	20,400
Office expense from contingent.....	-----	c 213	-----
Travel.....	111,063	64,710	46,353
Travel from contingent.....	-----	c 1,243	-----
Operation.....	3,324,274	4,453,882	—629,608
Operation from contingent.....	-----	c 3,009	-----
Working capital.....	214,600	208,328	6,272
Working capital from contingent.....	-----	c 26	-----
Repairs.....	730,708	677,490	53,218
Repairs from contingent.....	-----	c 250	-----
Equipment.....	152,315	77,227	75,088
Equipment from contingent.....	-----	c 120	-----
Permanent improvements.....	3,268,986	301,461	2,967,525
Educational.....	194,780	950	193,830
Miscellaneous.....	25,000	2,658	22,342
Land.....	455,000	403,411	51,589
Land from contingent.....	-----	c 617	-----
Contingent.....	24,000	*(5,479)	18,522
Total.....	\$12,186,947	\$9,162,540	\$3,024,407
Printing.....	30,000	28,534	1,466
Total.....	\$12,216,947	\$9,191,074	\$3,025,873
†Emergency No. 2.....	-----	3,900	-----
†Emergency No. 3.....	-----	362	-----
		\$9,195,336	-----
	Receipts for first year.	Bills paid and unpaid first year.	Amount unused for first year— June 30, 1920.
Working capital revolving fund.....	\$764,081	\$484,591	\$279,490

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total. * Not included in total.

† Appropriations from which these amounts were paid were included in the 50th General Assembly figures given in Department of Finance Second Annual Report of June 30, 1919 under Illinois State Penitentiary Division.

DEPARTMENT OF PUBLIC HEALTH

GENERAL OFFICE

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$13,780	\$10,747	\$3,033
Office expense.....	1,159	1,201	—42
Travel.....	2,200	2,675	—475
Operation.....	75	68	9
Repairs.....	110	—24	86
Equipment.....	600	130	470
Contingent.....	3,600	-----	3,600
Total.....	\$21,524	\$14,843	\$6,681
Printing.....	17,500	13,146	4,354
Total.....	\$39,024	\$27,989	\$11,035

COMMUNICABLE DISEASES

Receipts from all sources July 1, 1919 to June 30, 1920, \$211.00.			
Salaries and wages.....	\$39,040	\$32,672	\$6,368
Office expense.....	1,992	1,885	107
Travel.....	12,000	11,414	586
Operation.....	110	90	11
Repairs.....	105	88	17
Equipment.....	185	547	—362
Total.....	\$53,432	\$46,705	\$6,727
† Printing.....	-----	-----	-----

DIAGNOSTIC LABORATORY

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$8,890	\$5,401	\$3,479
Office expense.....	589	321	268
Travel.....	1,400	174	1,226
Operation.....	3,063	3,956	—893
Repairs.....	417	32	385
Equipment.....	625	375	250
Total.....	\$14,974	\$10,259	\$4,715
† Printing.....	-----	-----	-----

TUBERCULOSIS

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$1,320	-----	\$1,320
Office expense.....	475	\$252	223
Travel.....	2,000	556	1,444
Operation.....	5	5	-----
Equipment.....	150	-----	150
Total.....	\$3,950	813	\$3,137
† Printing.....	-----	-----	-----

Minus signs indicate amount used in excess of first year's proportion.

† Printing included in General Office Appropriation.

DEPARTMENT OF PUBLIC HEALTH—Continued.

SANITATION

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$23,080	\$20,894	\$1,186
Office expense.....	1,075	1,110	—35
Travel.....	9,000	3,393	5,607
Operation.....	870	929	—59
Repairs.....	308	313	—5
Equipment.....	880	1,397	—517
Total.....	\$34,193	\$28,036	6,157
†Printing.....			

VITAL STATISTICS

Receipts from all sources July 1, 1919 to June 30, 1920, \$77.50.			
Salaries and wages.....	\$23,080	\$23,685	\$ 375
Office expense.....	2,060	2,013	47
Travel.....	5,700	3,179	2,521
Repairs.....	145	32	113
Equipment.....	885	662	223
Total.....	\$31,850	\$28,571	\$3,279
†Printing.....			

LODGING HOUSE INSPECTION

Receipts from all sources July 1, 1919 to June 30, 1920, \$50.00.			
Salaries and wages.....	\$10,500	\$9,809	\$691
Office expense.....	1,475	1,315	160
Travel.....	300		300
Operation.....	15		15
Repairs.....		1	—1
Equipment.....	50		50
Total.....	\$12,340	\$11,135	\$1,155
†Printing.....			

BIOLOGICAL LABORATORIES

Receipts from all sources July 1, 1919 to June 30, 1920, \$290.27.			
Salaries and wages.....			
Office expense.....			
Travel.....			
Operation.....			
Repairs.....			
Equipment.....			
Total.....	\$54,899	\$44,797	\$9,802
†Printing.....			

Minus signs indicate amount used in excess of first year's proportion.

† Printing included in General Office Appropriation

THE DEPARTMENT OF FINANCE

DEPARTMENT OF PUBLIC HEALTH—Continued.

SURVEYS AND RURAL HYGIENE

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$5,100	\$4,894	\$ 206
Office expense.....	125	31	94
Travel.....	3,500	2,321	1,179
Operation.....	480	364	116
Repairs.....	50	44	6
Equipment.....	180	342	—162
Total.....	\$9,435	\$7,996	\$1,439
†Printing.....			

PUBLIC HEALTH INSTRUCTION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$4,720	\$4,196	\$524
Office expense.....	800	1,116	—316
Operation.....	253	111	142
Repairs.....	680	40	640
Equipment.....	910	424	486
Total.....	\$7,363	\$5,887	\$1,476
†Printing.....			

SOCIAL HYGIENE

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$15,000	\$19,145	\$—4,145
Office expense.....	5,000	4,375	625
Travel.....	6,000	8,857	—2,857
Operation.....	9,500	16,345	—6,845
Repairs.....	1,800	350	1,450
Equipment.....	5,000	3,971	1,029
Contingent.....	7,700		7,700
Total.....	\$50,000	\$53,043	\$—3,043
†Printing.....			

CHILD HYGIENE AND PUBLIC HEALTH NURSING

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$11,240	\$10,472	\$ 768
Salaries and wages from contingent.....		c 1,703	
Office expense.....	350	129	221
Travel.....	4,800	7,647	—2,847
Operation.....	90	29	61
Equipment.....	165	227	—62
Contingent.....	2,400	*(1,703)	697
Total.....	\$19,045	\$20,207	\$—1,162
†Printing.....			

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total. * Not included in total.

† Printing included in General Office Appropriation.

DEPARTMENT OF PUBLIC HEALTH—Concluded.

RABIES

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$2,000	\$1,972	\$28
Total.....	\$2,000	\$1,972	\$28
† Printing.....			

SOCIAL HYGIENE—FEDERAL

Receipts from all sources July 1, 1919 to June 30, 1920, \$68,692.24.			
Salaries and wages.....	Lump sum appropriation	\$36,530	
Office expense.....		3,134	
Travel.....		4,459	
Operation.....		3,217	
Repairs.....		550	
Equipment.....		5,669	
Total.....	\$68,692	\$53,659	\$13,033
† Printing.....			

**RECAPITULATION

Receipts from all sources July 1, 1919 to June 30, 1920, \$627.77.			
Salaries and wages.....	\$164,800	\$140,195	\$15,605
Salaries and wages from contingent.....		c 1,703	
Office expense.....	15,800	14,252	1,548
Travel.....	47,900	40,277	7,623
Operation.....	57,545	59,468	—1,923
Repairs.....	3,850	927	2,923
Equipment.....	11,110	8,492	2,618
Contingent.....	13,700	*(1,703)	11,997
Total.....	\$314,705	\$274,314	\$40,391
Printing.....	17,500	13,146	4,354
Total.....	\$332,205	\$287,460	\$44,745

DEPARTMENT OF TRADE AND COMMERCE

GENERAL OFFICE

Receipts from all sources July 1, 1919 to June 30, 1920, \$10,364.07.			
Salaries and wages.....	\$14,420	\$8,694	\$5,726
Office expense.....	1,200	389	811
Travel.....	3,000	2,988	12
Operation.....	300	206	94
Repairs.....	750	192	558
Equipment.....	800	40	760
Contingent.....	10,000		10,000
Total.....	\$30,470	\$12,509	\$17,961
Printing.....	2,750	207	2,543
Total.....	\$33,220	\$12,716	\$20,504

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total. * Not included in total.

† Printing included in General Office Appropriation.

** Federal Social Hygiene not included in recapitulation.

THE DEPARTMENT OF FINANCE

DEPARTMENT OF TRADE AND COMMERCE—Continued

INSURANCE

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$3,660,389.54.			
Salaries and wages.....	\$65,560	\$64,670	\$ 890
Office expense.....	4,625	3,414	1,211
Travel.....	11,000	10,714	286
Repairs.....	875	592	283
Equipment.....	200	143	57
Equipment from contingent.....		c 498	
Contingent.....	1,000	*(498)	502
Total.....	\$83,260	\$80,031	\$3,229
Printing.....	15,000	11,234	3,766
Total.....	\$98,260	\$91,265	\$6,995

CHICAGO GRAIN INSPECTION

Receipts from all sources July 1, 1919 to June 30, 1920, \$254,453.20.			
Salaries and wages.....	\$221,880	\$208,497	\$13,383
Salaries and wages—overtime.....	15,000	11,352	3,648
Office expense.....	18,350	16,088	2,262
Travel.....	5,000	4,888	112
Operation.....	3,150	3,035	115
Repairs.....	1,200	1,546	—346
Equipment.....	5,500	2,953	2,547
Contingent.....	2,500		2,500
Total.....	\$272,580	\$249,359	\$24,221
Printing.....	4,000	4,705	—705
Total.....	\$276,580	\$253,064	\$23,516

EAST ST. LOUIS GRAIN INSPECTION

Receipts from all sources July 1, 1919 to June 30, 1920, \$31,885.58.			
Salaries and wages.....	\$27,870	\$27,809	\$61
Salaries and wages—overtime.....	500	591	—91
Office expense.....	1,800	1,394	406
Travel.....	700	388	312
Operation.....	800	892	—92
Repairs.....	500	122	378
Equipment.....	500	318	182
Contingent.....	500		500
Total.....	\$33,170	\$31,514	\$1,656
Printing.....	1,000	588	412
Total.....	\$34,170	\$32,102	\$2,068

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

DEPARTMENT OF TRADE AND COMMERCE—Concluded

FIRE PREVENTION

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$61,130	\$50,517	\$10,613
Salaries and wages from contingent.....		c 34	
Office expense.....	4,900	4,284	616
Travel.....	23,500	17,000	6,500
Repairs.....	300	126	174
Equipment.....	500	255	245
Services and expenses—investigations and inspections.....	6,500	1,725	4,775
Contingent.....	1,000	*(34)	966
Total.....	\$97,830	\$73,941	\$23,889
Printing.....	2,500	938	1,562
Total.....	\$100,330	\$74,879	\$25,451

PUBLIC UTILITIES

Receipts from all sources July 1, 1919 to June 30, 1920, \$205,034.82.			
Salaries and wages.....	\$224,020	\$223,935	\$ 185
Salaries and wages—valuations and investigations.....		c 26,485	
Office expense.....	21,150	19,068	2,082
Travel.....	35,000	36,288	—1,288
Operation.....	400	18	382
Repairs.....	2,000	591	1,409
Equipment.....	3,000	2,222	778
Valuations and investigations.....	50,000	*(26,485)	23,515
Contingent.....	2,000		2,000
Total.....	\$337,570	\$308,507	\$29,063
Printing.....	20,000	11,253	8,747
Total.....	\$357,570	\$319,760	\$37,810

RECAPITULATION

Receipts from all sources July 1, 1919 to June 30, 1920, \$4,162,127.21.			
Salaries and wages.....	\$630,380	\$595,965	\$34,415
Salaries and wages from contingent.....		c 34	
Salaries and wages from lump sum.....			
Office expense.....	52,025	44,637	7,388
Office expense from contingent.....			
Office expense from lump sum.....			
Travel.....	78,200	72,266	5,934
Travel from contingent.....			
Travel from lump sum.....			
Operation.....	4,650	4,151	499
Repairs.....	5,625	3,169	2,456
Repairs from contingent.....			
Equipment.....	10,500	5,931	4,569
Equipment from contingent.....		c 498	
Lump sum appropriation.....			
Miscellaneous.....	56,500	28,210	28,290
Contingent.....	17,000	*(532)	16,468
Total.....	\$854,880	\$754,861	\$100,019
Printing.....	45,250	28,925	16,325
Total.....	\$900,130	\$783,786	\$116,344

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total.

* Not included in total.

DEPARTMENT OF REGISTRATION AND EDUCATION

GENERAL OFFICE

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$8,320	\$7,884	\$ 436
Travel.....	5,000	1,996	3,004
Total.....	\$13,320	\$9,880	\$3,440

REGISTRATION

Receipts from all sources July 1, 1919 to June 30, 1920, \$115,124.16.			
Salaries and wages.....	\$59,840	\$48,196	\$11,044
Office expense.....	10,750	9,424	1,326
Travel.....	13,700	12,486	1,214
Operation.....	250	310	—80
Repairs.....	500	427	73
Equipment.....	1,300	375	925
Refunds.....	2,000	719	1,281
Contingent.....	1,000	-----	1,000
Total.....	\$89,340	\$71,937	\$17,403
Printing.....	6,700	6,077	623
Total.....	\$96,040	\$78,014	\$18,026

STATE MUSEUM

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$7,500	\$7,398	\$ 102
Office expense.....	1,500	652	848
Travel.....	500	528	—28
Repairs.....	750	851	—101
Equipment.....	6,000	1,142	4,858
Total.....	\$16,250	\$10,571	\$5,679
Printing.....	1,900	1,139	761
Total.....	\$18,150	\$11,710	\$6,440

NATURAL HISTORY SURVEY

Receipts from all sources July 1, 1919 to June 30, 1920, \$11.96.			
Salaries and wages.....	\$26,780	\$26,527	\$ 253
Office expense.....	660	606	54
Travel.....	4,000	3,430	570
Operation.....	1,500	1,112	388
Repairs.....	1,250	1,322	—72
Equipment.....	1,150	1,042	108
Contingent.....	500	-----	500
Total.....	\$35,840	\$34,039	\$1,801
Printing.....	2,550	1,053	1,497
Total.....	\$38,390	\$35,092	\$3,298

Minus signs indicate amount used in excess of first year's proportion.

DEPARTMENT OF REGISTRATION AND EDUCATION—Continued

STATE GEOLOGICAL SURVEY

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920. \$143.44.			
Salaries and wages.....	\$36,809	\$34,077	\$ 2,732
Office expense.....	1,895	1,908	—13
Travel.....	10,550	9,139	1,411
Operation.....	2,125	2,321	—196
Repairs.....	1,100	2,004	—904
Topographic survey.....	15,000	19,978	—4,978
Equipment.....	758	1,234	—476
Contingent.....	500	-----	500
Total.....	\$68,737	\$70,661	\$—1,924
Printing.....	5,400	1,620	3,780
Total.....	\$74,137	\$72,281	\$1,856

STATE WATER SURVEY

Receipts from all sources July 1, 1919 to June 30, 1920, \$355.85.			
Salaries and wages.....	\$23,300	\$21,146	\$2,154
Office expense.....	800	511	289
Travel.....	2,500	2,669	—169
Operation.....	1,750	1,024	726
Repairs.....	1,500	384	1,116
Equipment.....	7,900	1,667	6,233
Contingent.....	500	-----	500
Total.....	\$38,250	\$27,401	\$10,849
Printing.....	2,150	308	1,842
Total.....	\$40,400	\$27,709	\$12,691

IMMIGRANTS COMMISSION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$3,433	\$3,219	\$ 214
Office expense.....	695	895	—200
Travel.....	200	262	—62
Equipment.....	263	181	82
Total.....	\$4,591	\$4,557	\$34

Minus signs indicate amount used in excess of first year's proportion

THE DEPARTMENT OF FINANCE

DEPARTMENT OF REGISTRATION AND EDUCATION—Continued

STATE NORMAL UNIVERSITY

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$24,936.05.			
Salaries and wages.....	\$151,471	\$151,454	\$ 17
Summer school salaries.....	27,895	27,895	-----
Office expense.....	1,100	1,118	—18
Travel.....	2,000	580	1,420
Operation.....	18,930	17,569	1,361
Repairs.....	20,756	16,727	4,029
Equipment.....	3,850	3,809	41
Permanent improvements.....	3,000	625	2,375
Contingent.....	1,000	-----	1,000
Total.....	\$230,002	\$219,777	\$10,225
Printing.....	2,600	1,849	751
Total.....	\$232,602	\$221,626	\$10,976

EASTERN ILLINOIS STATE NORMAL SCHOOL

Receipts from all sources July 1, 1919 to June 30, 1920, \$7,550.95.			
Salaries and wages.....	\$99,305	\$98,147	\$1,158
Summer school salaries.....	9,538	9,536	2
Office expense.....	950	895	55
Travel.....	600	601	—1
Operation.....	14,500	14,539	—39
Repairs.....	9,575	8,655	920
Equipment.....	3,500	2,999	501
Permanent improvements.....	3,000	2,940	60
Contingent.....	1,000	-----	1,000
Total.....	\$141,968	\$138,312	\$3,656
Printing.....	2,100	1,508	592
Total.....	\$144,068	\$139,820	\$4,248

WESTERN ILLINOIS STATE NORMAL SCHOOL

Receipts from all sources July 1, 1919 to June 30, 1920, \$11,286.72.			
Salaries and wages.....	\$88,743	\$88,743	-----
Summer school salaries.....	11,777	11,777	-----
Office expense.....	1,750	1,359	\$ 391
Travel.....	2,500	2,242	258
Operation.....	15,200	13,680	1,520
Repairs.....	13,090	10,576	2,514
Equipment.....	3,000	2,900	100
Permanent improvements.....	5,500	2,393	3,107
Contingent.....	1,000	-----	1,000
Total.....	\$142,560	\$133,670	8,890
Printing.....	2,200	335	1,865
Total.....	\$144,760	\$134,005	\$10,755

Minus signs indicate amount used in excess of first year's proportion

DEPARTMENT OF REGISTRATION AND EDUCATION—Concluded

NORTHERN ILLINOIS STATE NORMAL SCHOOL

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$2,148.00.			
Salaries and wages.....	\$104,995	\$102,793	\$ 2,202
Summer school salaries.....	9,000	9,214	—214
Office expense.....	700	698	2
Travel.....	250	471	—221
Operation.....	19,500	21,752	—2,252
Repairs.....	6,300	6,699	—399
Equipment.....	2,900	3,510	—610
Contingent.....	1,000	-----	1,000
Total.....	\$144,645	\$145,137	\$—492
Printing.....	1,300	1,385	—85
Total.....	\$145,945	\$146,522	\$—577

SOUTHERN ILLINOIS STATE NORMAL SCHOOL

Receipts from all sources July 1, 1919 to June 30, 1920, \$12,297.88.			
Salaries and wages.....	\$104,060	\$101,124	\$2,936
Summer school salaries.....	11,300	11,278	22
Office expense.....	1,640	1,221	419
Travel.....	600	364	236
Operation.....	13,400	12,189	1,211
Repairs.....	9,350	5,588	3,762
Equipment.....	2,790	2,541	249
Contingent.....	1,000	-----	1,000
Total.....	\$144,140	\$134,305	\$9,835
Printing.....	2,200	1,547	653
Total.....	\$146,340	\$135,852	\$10,488

RECAPITULATION

Receipts from all sources July 1, 1919 to June 30, 1920, \$173,855.01.			
Salaries and wages.....	\$714,556	\$690,708	\$23,848
Salaries and wages—summer schools.....	69,510	69,700	—190
Office expense.....	22,440	19,287	3,153
Travel.....	42,400	34,768	7,632
Operation.....	87,155	84,496	2,659
Working capital.....	-----	-----	-----
Repairs.....	64,171	53,233	10,938
Equipment.....	33,411	21,400	12,011
Permanent improvements.....	11,500	5,958	5,542
Miscellaneous.....	17,000	20,697	—3,697
Contingent.....	7,500	-----	7,500
Total.....	\$1,069,643	\$1,000,247	\$69,396
Printing.....	29,100	16,821	12,279
Total.....	\$1,098,743	\$1,017,068	\$81,675

Minus signs indicate amount used in excess of first year's proportion.

CODE DEPARTMENTS
RECAPITULATION

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$5,778,660.95.			
Salaries and wages.....	\$5,824,289	\$5,448,600	\$ 375,689
Salaries and wages from contingent.....		c 5,470	
Salaries and wages from lump sum.....		c 5,515	
Office expense.....	305,927	247,351	58,576
Office expense from contingent.....		c 1,802	
Office expense from lump sum.....		(c) 800	
Travel.....	491,838	394,453	97,385
Travel from contingent.....		c 1,715	
Travel from lump sum.....		c 1,177	
Operation.....	4,181,442	4,790,805	—609,363
Operation from contingent.....		c 5,452	
Working capital.....	214,600	208,328	6,272
Working capital from contingent.....		c 26	
Repairs.....	894,351	790,202	104,149
Repairs from contingent.....		c 1,678	
Equipment.....	245,641	143,304	102,337
Equipment from contingent.....		c 768	
Permanent improvements.....	3,499,040	360,953	3,138,087
Land.....	455,000	403,411	51,589
Land from contingent.....		c 617	
Contingent.....	103,100	*(17,528)	85,572
Buildings.....	1,097,293	364,587	732,706
Educational.....	194,780	950	193,830
County fairs.....	110,000	99,690	10,310
Miscellaneous.....	131,442	67,312	64,130
Miscellaneous from lump sum.....		c 19,193	
Lump sum appropriations.....	55,000	*(26,685)	28,315
Total.....	\$17,803,743	\$13,364,159	\$4,439,584
Printing.....	208,250	146,632	61,618
Total.....	\$18,011,993	\$13,510,791	\$4,501,202
Printing, binding, paper, etc.....	\$408,130	\$317,685	\$90,445
Expenditures for roads—State aid road fund.....		\$ 637,652	
Expenditures for roads—Federal aid road fund.....		6,970,704	
Total.....		\$7,608,356	
	Receipts for first year.	Bills paid and unpaid— first year.	Amount unused for first year June 30, 1920.
Working capital revolving fund.....	\$764,081	\$484,591	\$279,490

MILITARY AND NAVAL DEPARTMENT
OFFICE

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$26,700	\$25,031	\$1,669
Office expense.....	6,825	4,826	1,999
Travel.....	10,000	6,626	3,374
Total.....	\$43,525	\$36,483	\$7,042
Printing.....	6,500	2,767	\$3,733
Total.....	\$50,025	\$39,250	\$10,775

Minus signs indicate amount used in excess of first year's proportion.
"c" Included in total. * Not included in total.

MILITARY AND NAVAL DEPARTMENT—Continued

ILLINOIS NATIONAL GUARD

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$1,102.70.			
Salaries and wages.....	\$ 95,000	\$142,192	\$-47,192
Travel.....	57,000	39,512	17,488
Operation.....	274,000	273,662	338
Reserve, I. N. G. Chicago riot.....	110,000	110,000	
Total.....	\$536,000	\$565,366	\$-29,366
†Printing.....			

SOLDIERS' AND SAILORS' WAR SERVICE RECORDS

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$6,000	5,038	\$962
Office expense.....	1,000	1,000	
Travel.....	1,000	231	769
Equipment.....	500	500	
Total.....	\$8,500	\$6,769	\$1,731
†Printing.....			

BURIAL PLACES SOLDIERS AND SAILORS

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$1,800	\$1,800	
Travel.....	2,000	724	\$1,276
Head stones.....	1,200	124	1,076
Total.....	\$5,000	\$2,648	\$2,352
†Printing.....			

ARMORIES, ARSENAL, RIFLE RANGE

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Peoria Armory.....	\$150,000		\$150,000
Kankakee Armory.....	75,000		75,000
Arsenal—rifle range.....	10,000	\$2,444	7,556
Ottawa Armory.....	6,437	6,437	
Total.....	\$241,437	\$8,881	\$232,556
†Printing.....			

Minus signs indicate amount used in excess of first year's proportion.

† Printing included in office appropriation.

MILITARY AND NAVAL DEPARTMENT—Concluded

RECAPITULATION

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$1,102.70.			
Salaries and wages.....	\$129,500	\$174,061	\$-44,561
Office expense.....	7,825	5,826	1,999
Travel.....	70,000	47,063	22,907
Operation.....	274,000	273,652	338
Repairs.....	16,437	8,881	7,556
Equipment.....	500	500	
Permanent improvements.....	225,000		225,000
Miscellaneous.....	1,200	124	1,076
Lump sum appropriation.....	110,000	110,000	
Total.....	\$834,462	\$620,147	\$214,315
Printing.....	6,500	2,767	3,733
Total.....	\$840,962	\$622,914	\$218,048

BOARDS AND COMMISSIONS

CIVIL SERVICE COMMISSION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$25,285	\$21,164	\$4,121
Office expense.....	4,760	3,879	882
Travel.....	1,800	1,847	-47
Repairs.....	300	266	34
Equipment.....	500	231	269
Contingent.....	1,000		1,000
Total.....	\$33,645	\$27,386	\$6,259
Printing.....	5,000	1,568	3,432
Total.....	\$38,645	\$28,954	\$9,691

ILLINOIS FARMERS' INSTITUTE

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$7,800	\$7,800	
Office expense.....	3,000	1,624	\$ 376
Office expense from contingent.....		c 22	
Reporting.....	500	497	3
Per diem.....	7,000	6,985	15
Directors' expense.....	5,000	5,184	-184
County institutes.....	7,650	6,630	1,020
Contingent.....	100	*(22)	78
Total.....	\$30,050	\$28,742	\$1,308
Printing.....	16,000	7,198	8,802
Total.....	\$46,050	\$35,940	\$10,110

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

BOARDS AND COMMISSIONS—Continued

ILLINOIS STATE HISTORICAL LIBRARY

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, \$453.15.			
Salaries and wages.....	\$11,670	\$11,627	\$ 43
Office expense.....	2,500	1,743	757
Travel.....	1,000	499	501
Repairs.....	200	181	19
Historical society.....	2,000	2,003	—3
Equipment.....	3,500	3,499	1
World War.....	†50,000	1,996	48,004
War history.....	†20,000	6,087	13,913
Total.....	\$90,870	\$27,635	\$63,235
Printing.....	10,200	2,865	7,335
Total.....	\$101,070	\$30,500	\$70,570

LEGISLATIVE REFERENCE BUREAU

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$24,079	\$23,440	\$ 639
Office expense.....	1,020	816	204
Travel.....	1,200	284	916
Repairs.....	300	15	285
Equipment.....	1,000	663	337
Contingent.....	1,000		1,000
Total.....	\$28,599	\$25,218	\$3,381
Printing.....	5,500	725	4,775
Total.....	\$34,099	\$25,943	\$8,156

LEGISLATIVE REFERENCE BUREAU (CONSTITUTIONAL CONVENTION)

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	Lump sum appropriation	\$15,767	
Office expense.....		1,138	
Travel.....		567	
Equipment.....		771	
Printing.....		6,531	
Total.....	\$30,000	\$24,774	\$5,226

THE PENITENTIARY COMMISSION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	Lump sum appropriation	\$ 66,178	
Office expense.....		1,483	
Travel.....		153	
Operation.....		24,508	
Repairs.....		2,479	
Equipment.....		18,601	
Permanent improvements.....		254,191	
Total.....	\$518,200	\$367,598	\$150,602

Minus signs indicate amount used in excess of first year's proportion
† Biennial Appropriation.

THE DEPARTMENT OF FINANCE

BOARDS AND COMMISSIONS—Continued

BOARD FOR VOCATIONAL EDUCATION

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$10,000	\$10,000	-----
Office expense.....	1,750	1,360	\$ 390
Travel.....	2,400	2,845	—445
† Equipment.....	1,750	1,732	18
† Contingent.....	1,000	-----	1,000
† Distribution.....	369,390	-----	369,390
Total.....	\$386,290	\$15,937	\$370,353

BOARD FOR VOCATIONAL EDUCATION (FEDERAL VOCATIONAL EDUCATION FUND)

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$10,000	\$10,000	-----
Office expense.....	1,750	1,319	\$ 431
Travel.....	2,400	2,845	—445
Fund I.....	43,803	-----	43,803
Fund II.....	82,212	-----	82,212
Balance in fund III.....	41,226	-----	41,226
Total.....	\$181,391	14,164	\$167,227

ILLINOIS BEEKEEPERS' ASSOCIATION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$200	\$120	\$ 80
Office expense.....	600	177	423
Association meeting.....	200	174	26
Total.....	\$1,000	\$471	\$529

ILLINOIS STATE DAIRYMEN'S ASSOCIATION.

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$395	\$410	\$—15
Office expense.....	925	911	14
Travel.....	130	42	88
Annual convention.....	450	465	—15
One-day conventions.....	600	115	485
Total.....	\$2,500	\$1,943	\$557

ILLINOIS FIREMEN'S ASSOCIATION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Office expense.....	Lump sum appropriation	\$875	-----
Travel.....		125	-----
Total.....	\$1,000	\$1,000	-----

Minus signs indicate amount used in excess of first year's proportion.

† Full Biennium.

BOARDS AND COMMISSIONS—Continued

ILLINOIS G. A. R.

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Office expense.....	Lump sum appropriation	\$1 210	\$—210
Total.....	\$1,000	\$1,210	\$—210

G. A. R. MEMORIAL HALL

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$2,000	\$2,000	
House expenses from contingent.....		c 826	
Contingent.....	850	*(826)	\$24
Total.....	\$2,850	\$2,826	\$24

ILLINOIS LIVE STOCK ASSOCIATION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
	Lump sum appropriation		
Total.....	\$1,500		\$1,500

ILLINOIS STATE HORTICULTURAL SOCIETY

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$ 625	\$300	\$ 325
Office expense.....	2,075	594	1,481
Experiment station.....	650	362	288
District and State societies.....	1,000	260	740
Demonstration.....	650	450	200
Summer meeting.....	500	392	108
Total.....	\$5,500	\$2,358	\$3,142

ILLINOIS STATE POULTRY ASSOCIATION

Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$300	\$300	
Office expense.....	200	194	\$ 6
Travel.....	100	119	—19
Show expense.....	400	387	13
Total.....	\$1,000	\$1,000	

Minus signs indicate amount used in excess of first year's proportion.
 "c" Included in total. * Not included in total.

THE DEPARTMENT OF FINANCE

BOARDS AND COMMISSIONS—Concluded.
UNIFORM LAWS COMMISSION

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Receipts from all sources July 1, 1919 to June 30, 1920, none.			
Salaries and wages.....	\$200	\$ 58	\$142
Office expense.....	200		200
Travel.....	750	428	322
Total.....	\$1,150	\$486	\$664
Printing.....	200		200
Total.....	\$1,350	\$486	864

**RECAPITULATION

Receipts from all sources July 1, 1919 to June 30, 1920, \$453.15.			
Salaries and wages.....	\$ 82,554	\$ 77,219	\$ 5,335
Salaries and wages from lump sum.....		c 81,945	
Office expense.....	16,030	11,297	4,733
Office expense from lump sum.....		c 4,706	
Office expense from contingent.....		c 22	
Travel.....	8,030	6,426	1,604
Travel from lump sum.....		c 850	
Operation.....			
Operation from lump sum.....		c 24,508	
Repairs.....	800	462	338
Repairs from lump sum.....		c 2,479	
Equipment.....	6,750	6,125	625
Equipment from lump sum.....		c 19,372	
Permanent improvements.....			
Permanent improvements from lump sum.....		c 254,191	
Educational.....	369,390		369,390
Contingent.....	3,950	* (848)	3,102
War history.....	20,000	6,087	13,913
World War.....	50,000	1,996	48,004
Miscellaneous.....	25,950	23,542	2,408
Miscellaneous from lump sum.....		c 6,531	
Miscellaneous from contingent.....		c 826	
Lump sum appropriation.....	551,700	* (394,582)	157,118
Total.....	\$1,135,154	\$528,584	\$606,570
Printing.....	36,900	12,356	24,544
	\$1,172,054	\$540,940	\$631,114

CODE DEPARTMENTS, MILITARY AND NAVAL DEPART-
MENT, BOARDS AND COMMISSIONS

RECAPITULATION BY STANDARD ACCOUNTS

Receipts from all sources July 1, 1919 to June 30, 1920, \$5,780,216.80.			
Salaries and wages.....	\$6,036,343	\$5,699,880	\$ 336,463
Salaries and wages from state officers' payroll.....	355,300	345,101	10,199
Salaries and wages from lump sum.....		c 87,460	
Salaries and wages from contingent.....		c 5,470	
Office expense.....	329,782	264,474	65,308
Office expense from lump sum.....		c 5,506	
Office expense from contingent.....		c 1,824	
Travel.....	569,868	447,972	121,896
Travel from lump sum.....		c 2,027	
Travel from contingent.....		c 1,715	
Operation.....	4,455,442	5,064,467	—609,025

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total. * Not included in total.

** Federal vocational education not included in recapitulation.

RECAPITULATION BY STANDARD ACCOUNTS—Concluded

Divisions and accounts.	1 First year July 1, 1919 to June 30, 1920. (Proportion of biennial appropriation.)	2 Bills paid since July 1, 1919 and bills on hand unpaid June 30, 1920.	3 Amount of first year's proportion unused June 30, 1920.
Operation from lump sum.....		\$c 24,508	
Operation from contingent.....		c 5,452	
Working capital.....	\$ 214,600	208,328	\$ 6,272
Working capital from contingent.....		c 26	
Repairs.....	911,588	799,545	112,043
Repairs from lump sum.....		c 2,479	
Repairs from contingent.....		c 1,678	
Equipment.....	252,891	149,929	102,962
Equipment from lump sum.....		c 19,372	
Equipment from contingent.....		c 768	
Contingent.....	107,050	* (18,376)	88,674
Permanent improvements.....	3,724,040	360,953	3,363,087
Permanent improvements from lump sum.....		c 254,191	
Land.....	455,000	403,411	51,589
Land from contingent.....		c 617	
Building, Centennial Memorial, State House Vandalia armories, monuments, etc.....	1,097,293	364,587	732,706
Education—Vocational, distribution, excess cost edu- cation D. B. D. children.....	564,170	950	563,220
County fairs.....	110,000	99,690	10,310
War history.....	20,000	6,087	13,913
World War, history 33d division, 149th F. A.....	50,000	1,996	48,004
Reserve fund (Military and Naval Department).....	110,000	110,000	
Miscellaneous.....	158,592	90,978	67,614
Miscellaneous from lump sum.....		c 25,724	
Miscellaneous from contingent.....		c 826	
Lump sum appropriations.....	606,700	* (421,267)	185,433
Total.....	\$20,128,659	\$14,857,991	\$5,270,668
Printing.....	251,650	161,755	89,895
Total.....	\$20,380,309	\$15,019,746	\$5,360,563
Printing, binding, paper, etc.....	\$408,130	\$317,685	\$90,445
Expenditures for roads—State aid road fund.....		\$ 637,652	
Expenditures for roads—Federal aid road fund.....		6,970,704	
Total.....		\$7,608,356	
	Receipts for first year.	Bills paid and unpaid first year.	Amount unsued for first year.
Working capital revolving fund.....	\$764,081	\$484,591	\$279,490
Reserve fund.....	500,000	**126,000	374,000

RECAPITULATION

Code departments.....	\$18,011,993	\$13,510,791	\$4,501,202
Military and Naval Department.....	840,962	622,914	218,048
Boards and commissions.....	1,172,054	540,940	631,114
Total.....	\$20,025,009	\$14,674,645	\$5,350,364
Salaries, code officers.....	320,300	310,351	9,949
Salaries, Military and Naval Department.....	18,500	18,500	
Salaries, boards and commissions.....	16,500	16,250	250
Grand total.....	\$20,380,309	\$15,019,746	\$5,360,563
Expenditures for roads—State aid road fund.....		\$ 637,652	
Expenditures for roads—Federal aid road fund.....		6,970,704	
Total.....		\$7,608,356	

Minus signs indicate amount used in excess of first year's proportion.

"c" Included in total. * Not included in total.

** Expenditures shown under proper department (Military and Naval and Public Welfare).

DIVISION OF TAX COMMISSION

FRANK F. NOLEMAN, *Chairman*

JOSEPH B. SANBORN

CHARLES C. CRAIG

The Tax Commission, which became effective July 1, 1919, superseding the State Board of Equalization, commenced operations immediately following the appointment of its members. The entire month of July was necessarily taken up in process of organization, adopting of forms, selecting clerical help, etc. Consequently the commission was unable to commence or complete the important work of assessments within the usual period allotted to that work.

August 5, the members of the commission paid a flying visit to the Tax Commission of the State of Wisconsin for the purpose of investigating the method of work carried on by that body, thereby gaining much valuable information as a guide for future action.

August 14, the Tax Commission met with the Board of Assessors of Cook County and participated in the consideration of the change of the basis of assessment from one-third to one-half. At this meeting a line of action was adopted, which conformed to the later decision of the Illinois Supreme Court in that the said law became effective July 1, 1919, and that the change should be made on the books by the Board of Review for the assessment of 1919.

August 19, the Tax Commission took up the assessment of property of steam and electric railroads within the State, continuing the work until finished. During that period numerous informal hearings were held with the tax agents of the various roads. All items on each schedule were carefully checked over and compared with reports to the Public Utilities Commission, and the valuation of the physical property by the engineers of the Interstate Commerce Commission of a number of railroads in Illinois which had been appraised by that commission. Wherever other valuations were available, they were taken into consideration. This valuation was completed December 2. Petitions for review and correction of assessment were filed in thirty-four cases by the railroads or officers representing the counties wherein they were located. These petitions were disposed of during the months of December, 1919, and January, 1920, resulting in the correction of assessments by an increase in two cases, a decrease in eight, and a confirmation of the original assessment in twenty-four cases. The total number of schedules

passed upon was 228, of which number 181 were steam and 47 electric roads.

January 6, 1920, the Tax Commission completed the assessment of the capital stock and franchise of corporations other than railroad companies, including those which had filed schedules and those which failed to file schedules for the year 1919. The published records of the Secretary of State were carefully checked over, a card index made of all the corporations organized under the laws of the State, which were later classified and divided into lists according to jurisdiction.

This list is being supplemented by additional names as new corporations are organized. A large proportion of the corporations in the State failed to file schedules and it became necessary to make a capital stock assessment on the best information obtainable. Capital stock assessments were made on 995 corporations which filed schedules and 1,305 which failed to file schedules. Petitions for review and correction of assessment of capital stock were filed by 384 companies. Fifty-six hearings were held in the office of the Tax Commission in Springfield and 328 in the office of the Board of Review in Chicago. As a result of the petitions, upon review, the prayer of the petition was refused and the assessment confirmed in 82 cases; in 123 cases the assessment as originally fixed was reduced; in 179 cases the assessment was cancelled and the Tax Commission cancelled the tentative assessment of 299 companies on its own motion after investigation.

Petitions for rehearing were filed by five corporations and the Tax Commission considered said petitions; four were refused and the assessment confirmed; one petition was granted and the assessment modified. Eight corporations whose capital stock was assessed by the Tax Commission for 1919 have filed notices of appeal to the Circuit Court.

The Tax Commission finds a wide diversity of opinion among attorneys and agents of corporations as to the classifications under which certain corporations should be assessed; also a lack of knowledge on the part of local assessors as to how to arrive at proper figures in the assessment of capital stock. These matters are receiving necessary attention at the hands of the Tax Commission in the form of circulars and letters of instruction which are being sent out to local Assessors and Boards of Review. The situation would be much simplified if the Tax Commission was charged with the assessment of capital stock of all classes of corporations.

In August, 1919, the Tax Commission received an opinion from the Honorable Edward J. Brundage, attorney general, to the effect that the said commission had no authority under the law to equalize the valuations placed upon property by local assessors except for State purposes. For such purposes the assessed value was increased in 56 counties, decreased in 9 counties and not changed in 37 counties.

Commencing April 20, 1920, investigators were sent to several counties in the State for the purpose of compiling a list of real estate

transfers for the years 1918 and 1919. This information is recorded on cards and shows the sale price and assessed value of each piece of property. Up to July 13, 1920, about 3,500 cards had been returned. This investigation will be continued until all of the counties have been gone over and the result tabulated for use in the next quadrennial assessment, and for the information and guidance of local assessors.

In response to numerous requests from different states, tax commissions and attorneys, a compilation of the Tax Laws and Judicial Decisions of the State of Illinois was made by Ralph H. Wilkin, Librarian of the Illinois Supreme Court, under the supervision of the Tax Commission. This compilation was published March 20, 1920, and has proven a valuable book of reference for the various taxing bodies.

March 16-17, 1920, a meeting was held in the office of the Tax Commission with the County Treasurers and Supervisors of Assessments of the various counties, at which meeting there was a fair representation. All matters concerning the assessment of property were thoroughly canvassed with the result of a better understanding among all concerned. A copy of these proceedings was sent to each of the County Treasurers throughout the State.

April 8, 1920, the Chairman of the Tax Commission, upon request, appeared before the Revenue Committee of the Constitutional Convention and delivered an address, relative to the revenue article of the new Illinois Constitution.

The Boards of Review in 1919 were required to change all of the assessments from the basis of one-third to one-half and it being the quadrennial year for the assessment of real estate, their work was materially increased and the county clerks were delayed in certifying the result to the Tax Commission. This in turn delayed the completion of the work of the commission.

The assessing of the railroads for 1920 was commenced in June, and fair progress is being made. The commission has received, through the courtesy of the Public Utilities Commission, the engineer's valuations of all railroads within the State of Illinois that have been appraised by the Interstate Commerce Commission to date and the reports filed with the Public Utilities Commission by the railroads and the U. S. Government Railroad Administration showing operation for the year ending December 31, 1919, and these reports have materially aided in the work. The commission exercised the power of ordering re-assessment of the capital stock of corporations in one county for 1920. Where there appears to be a flagrant disregard of instructions, the commission expects to order re-assessments, but hopes that the campaign of education it is conducting will avoid the necessity of resorting to this rather drastic method of enforcing the law. A full detailed report of the work of the Tax Commission from the date of its organization down to March 1, 1920, was published in May and copies will be furnished on request.

Report of
THE DEPARTMENT OF AGRICULTURE
From July 1, 1919, to June 30, 1920

STATE OF ILLINOIS
THE DEPARTMENT OF AGRICULTURE
ORGANIZATION

EXECUTIVE OFFICERS

CHARLES ADKINS, *Director*, Springfield
H. H. PARKE, *Assistant Director*, Springfield

DIVISIONS

Division of Animal Industry and Veterinary Science.....Springfield
W. W. WRIGHT, *Superintendent*
DR. A. T. PETERS, *Chief Veterinarian*

Division of Dairy Extension.....Springfield
LEWIS N. WIGGINS, *Superintendent*

Division of Foods and Dairies.....Kimball Building, Chicago
JAMES L. McLAUGHLIN, *Superintendent*

Division of Game and Fish.....Springfield
RALPH F. BRADFORD, *Chief Warden*

Division of Apiary Inspection.....Putnam
A. L. KILDOW, *Chief Inspector*

Division of Plant Industry—
Plant Inspection—P. A. GLENN, *Chief Inspector*.....Urbana
Seed Inspection—ALBERT C. WILSON, *Chief Seed Analyst*. Springfield

*Division of State Fair.....Springfield
B. M. DAVISON, *General Manager*

Division of Agricultural Statistics.....Springfield
S. D. FESSENDEN, *U. S. Field Agent*, in charge

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* Owing to the fact that a separate report of the Division of State Fair is issued each year, a report from that division is not included here.

THE DEPARTMENT OF AGRICULTURE

CHARLES ADKINS, *Director*

American agriculture at this time finds itself in the "dumps." The slump in the price of agricultural products has gone below the cost of production. Eggs are the exception, one dozen eggs bringing the farmer nearly as much as two bushels of corn. Our law-making and law-enforcing bodies must not overlook the agricultural interests of the country. Agriculture, our basic industry, cannot long survive at a loss.

When we were a large exporting nation of agricultural products other countries set the prices on our commodities. We had large areas of cheap land and could compete with other countries, and did, at their prices. Now we have a different situation. We consume a larger proportion of what we produce. Countries that are large customers for farm commodities just now have not the money to pay for them. Other countries with cheap lands and cheap labor will ship their agricultural products to this country and sell to us, because we can pay for them; also sell cheaper than we can, because they are produced on cheaper land and with cheaper labor. Australia sells us her cheap wool, and if she continues to do so will bankrupt our wool growers. This has ruined many of them now. New Zealand sends her cheap frozen mutton; Argentina her corn, and Canada her wheat. If our National Congress does not put a protective tariff on farm products the lot of the American farmer will be a hard one for some years to come. If Europe can get sufficient credit to restore her buying power, that will help some.

The farmers have at all times extended the fullest cooperation in the administration of the affairs of the Department of Agriculture. The stock farmer takes his loss, if his cattle are tubercular, and cleans up for the good of all, that the live stock industry may be kept on a healthy and sanitary basis. The State and Federal Governments have been bearing part of the burden with him, and should continue to do so in the future. Our grain growers are doing the same thing. When flag smut in Madison County had to be handled that it might not become a menace to the whole country, about one hundred and sixty-five farmers in the infected area cooperated with the department in treating their wheat as it came from the machines, then had their seed wheat treated this fall before it was sown; all requiring extra time and expense. Yet this was necessary, and they did it, and showed a fine spirit of cooperation in doing the things necessary to protect the public.

Our farm bureau organizations render good service to the department whenever necessary, in enforcing the regulatory laws of the State.

Several new laws were passed by the last General Assembly, such as the Egg Law, Ice Cream Law, Commission Merchants' Law and Seed Law, and we found all parties affected by them anxious to learn their provisions and the rules under which the department expected to administer them. Everybody affected by these laws has cooperated with the department in their enforcement, and material good has come to the producer and consumer through their operation.

The law requiring the assessors to gather farm statistics in some cases was not complied with. Farm statistics are very important to both producer and consumer and should be as nearly accurate as possible. The farm bureau in each county should see to it that the assessor fills out the blanks furnished for this purpose. The Federal and State departments cooperate and issue a joint report, which is the best that can be compiled by the combined efforts of the two departments.

DIVISION OF GAME AND FISH

RALPH F. BRADFORD, *Chief Warden*

The year ending June 30, 1920, has been a prosperous period for the Division of Game and Fish, both financially and in work accomplished. The division at last is upon a paying basis and can be maintained in the future as a going concern.

Capable employees, proper equipment and intelligent enforcement of the Game and Fish Code will earn each year a surplus sufficient to buy and maintain the land and water necessary for spawning grounds for fish and rest grounds and refuge for birds and waterfowl—property that should be purchased or condemned before it is too late. Other states are investing many thousands of dollars in these projects and even in our own State, in Cook County, thousands of acres have been purchased (as a result of a vote by the people) and other purchases are in prospect. Why should not the State provide for such investments if the funds to pay for the property come from the earnings of this division?

The policy of the State is and has been to make ample provision for the citizens who through illness become wards of the State and inmates of the various State institutions. Why not make provision for the citizens who like the great out-doors and see fit to improve their condition of mind and body by hunting and fishing by the State doing its utmost to provide better places to hunt and fish?

This report covers the third year of the operation of the Division of Game and Fish, namely, from July 1, 1919, to June 30, 1920.

The cash receipts of the division for the first year of its operation, July 1, 1917, to June 30, 1918, were \$155,915.79; the expenditures, \$150,278.92, leaving a profit of \$5,636.87.

The cash receipts of the division for the second year, July 1, 1918, to June 30, 1919, were \$153,266.80; the expenditures, \$182,412.88, leaving a deficit of \$29,146.08.

The cash receipts for the third year which this report covers, July 1, 1919, to June 30, 1920, were \$236,970.89; the expenditures, \$187,524.09; the profits, \$49,446.80.

It will be noted that the receipts for each of the first two years were within something less than \$2,000 of being the same, while the receipts for the last year were something over \$80,000 in excess of those of each of the two former years. A part of this excess is attributable to additional license fees and increases in former license fees, provided for by the new Game and Fish Code which went into effect July 1, 1919, but the greater part of the excess is due to the activities and operations of the

officers and employees of the division in the enforcement of the provisions of the law.

That the officers and employees of the division were well organized and brought to a high standard of efficiency is attested by a comparison of the number of hunting licenses taken out during the three years under consideration, and also by the amounts of fines imposed and collected for violations of the law. During the first year there were 177,121 hunting licenses issued; the second year 168,988, and during the last year, 228,436.

Innumerable hunters have in the past failed to take out hunting licenses. The above figures, however, indicate that the activities of the division have perceptibly reduced the number of evaders in that respect. During the first year the fines imposed and collected were \$5,941.19; the second year \$7,513.45, and during the third year \$17,564.81.

With the division operating at a substantial profit, which is likely to show an increase rather than a decrease during the current year, it is incumbent upon the State to improve hunting and fishing conditions therein to the utmost of its ability.

It is of utmost importance that officers and employees of the division should be supplied with dependable automobiles and river boats, so that they may better cover their respective territories and detect and suppress violations, thereby conserving the supply of game birds and animals.

The establishment of a regular game farm for the raising of game birds and animals is not at this time advocated, but permission should be granted the division, and sufficient funds appropriated, for the construction of pens or enclosures upon the property of the State institutions for the purpose of keeping and breeding and raising game birds such as quails, prairie chickens, pheasants, and possibly partridges. The necessary birds to start such work at various institutions of the State can readily be procured at no great expense. At many of the institutions the inmates themselves can care for the birds, and not only is the plan wholly feasible from the standpoint of raising and acquiring a large quantity of such game birds subsequently to be liberated in their natural breeding and living places throughout the State, but such collections of birds would be of great interest to the inmates of the institutions and also to citizens of the State, generally, who visit the institutions.

Swamp or submerged lands should be acquired by the State, by condemnation if necessary, for the establishment of rest grounds or refuges for waterfowls and shore birds. These lands could also be used as spawning beds for fish, the necessity for which is becoming greater from day to day, as is hereinafter pointed out.

Something should be done to better fishing conditions at once. The Illinois River has been a great producer of food fishes. Thousands of tons have been taken from that river and supplied to the people of the State for food purposes, during the past decade.

Conditions in the Illinois River, however, have in the past few years undergone a great change and are continuing to change, to the detriment of the fish supply. The pollution of the river by sewerage from the city of Chicago, has rendered all that part of the river north of Chillicothe practically useless as fishing grounds. Below that point to where the river enters the Mississippi, many large tracts of submerged or swamp lands adjacent to the river, in the past the natural breeding and spawning beds of the river fish, have been reclaimed for farming purposes and drained of all the standing waters and large levees or dykes constructed. It is, therefore, absolutely necessary, if the supply of fish in the Illinois River is to be maintained or kept from further depreciation, that breeding and spawning beds be acquired by the State. Many of the choicest of such locations have already been taken up, as above stated, but there still remain several suitable locations which can and should be immediately acquired by the State. An expenditure of considerable money at this time for such purposes will, in course of years, prove an act of wisdom, and the failure of the State to so act at the present time will, without question, soon reduce the available supply of food fishes of the Illinois River to a minimum.

Some eight or ten miles north of Havana there are two large sized lakes, Mud and Clear Lakes, which connect with the Illinois River proper. These lakes were both meandered by the Federal Government in the year 1837 or thereabouts, and, having been so meandered, constitute within the meander lines public or State waters. These lakes were made fish preserves some years ago. This action ostensibly prohibited the taking of fish therefrom, except by means of hooks and lines, but because of the inaccessible location of the lakes and certain doubt as to the exact location of the meander lines, for the reason that practically all the adjacent land has become flooded and overflowed, the enforcement of the provisions of the law respecting fish preserves has been almost impossible.

These lakes should be surveyed, the original meander lines definitely determined, maps and plats made, and the waters within such meander lines should again, by proper action, be designated not only as fish preserves, but as rest grounds or refuges for waterfowls and shore birds. The waters should then be adequately posted, and in order to enforce the provisions of the law respecting fish preserves and rest grounds or refuges, an employee of the division should be permanently located at the nearest accessible point to these lakes where a suitable house can be constructed for his permanent living place.

When this is done, the lakes will not only better conditions respecting the supply of waterfowls and shore birds, but will also furnish natural breeding and spawning grounds for fish where they will be unmolested by the use of seines and other nets.

Fishing conditions from a sporting standpoint, can be bettered by further additions to and improvements at the State Fish Hatchery located at Spring Grove, and by additional legislation for the protection of black bass.

At the present time the only restriction on the catching or taking of black bass is that they shall be caught or taken only by means of hooks and lines. Many other states prescribe a closed season during spawning time, and also fix a daily bag limit of from ten to fifteen and prohibit the taking or catching of bass under ten inches in length. Legislation along these lines is deemed of importance to maintain or increase the supply of black bass in this State.

The operations of the division respecting the hatching of the eggs of whitefish and lake trout at Spring Grove for Lake Michigan; the removal of rough fish from the lakes in Lake County and the Fox and Rock Rivers and fish rescue work have been practically the same as in the preceding year.

Thousands of game fish and non-game fish of the better kinds raised at the hatchery at Spring Grove, have been distributed to different bodies of waters where a scarcity thereof exists throughout the State.

Approximately the usual thousands of pounds of confiscated fish have been distributed to State and charitable institutions as shown by table or memoranda herewith submitted.

Prior to the enactment of the present Game and Fish Code there were no restrictions respecting the fur-bearing animals of the State except a certain closed season. The present law requires persons taking these animals by the use of traps to have Trappers' licenses; requires trappers to get rid of green hides within ten days after the close of the open season, and to make reports to the division of all animals taken, sold, or shipped each year.

Properly to regulate traffic in the hides of fur-bearing animals, it is believed that fur dealers should be required to have licenses and that certain restrictions should be imposed respecting shipments of such hides by dealers.

A great deal of attention has been given the rescuing and saving of fish in the low lands along the rivers of the State, especially the Mississippi, Illinois and Kaskaskia, and the fish saved have been taken to the main waters or distributed to other rivers and lakes in different parts of the State.

STATEMENT OF CASH RECEIPTS AND EXPENDITURES FOR THE YEAR
ENDING JUNE 30, 1920

CASH RECEIPTS	
Sale of hunting licenses.....	\$180,163.38
Sale of trapping licenses.....	17,444.25
Sale of fishing licenses.....	14,915.67
Received for game violations.....	12,728.31
Received for fish violations.....	4,836.50
Sale of wholesale licenses.....	3,900.00
Sale of permits.....	1,402.00
Miscellaneous	1,580.78
	<u>\$236,970.89</u>
EXPENDITURES	
Salaries and wages.....	\$125,750.05
Office	5,800.07
Travel	33,494.22
Operation	8,354.67
Repairs	3,621.22
Equipment	3,536.26
Improvements	6,967.60
	<u>187,524.09</u>
Profit	<u>\$49,446.80</u>

CREDITS	
Confiscated fish sent to State and charitable institutions, 74,817 pounds at 10 cents per pound.....	7,481.70
Net profit	<u>\$56,928.50</u>

The fish for which we have credited the receipts of this division were disposed of as follows:

CONFISCATED FISH DONATED TO STATE INSTITUTIONS JULY 1, 1919, TO
JUNE 30, 1920

	Pounds.
State School for Boys, St. Charles.....	5,859
State School for Girls, Geneva.....	7,271
State School and Colony, Lincoln.....	515
State Hospital, Watertown.....	5,701
State Hospital, Jacksonville.....	5,295
State Hospital, Kankakee.	15,230
State Hospital, Elgin.....	8,788
Soldiers' Widows' Home, Wilmington.....	907
Soldiers' and Sailors' Home, Quincy.....	4,495
State Reformatory, Pontiac.....	11,750
Eye and Ear Infirmary, Chicago.....	2,055
Peoria State Hospital, Bartonville.....	415
State Penitentiary, Joliet.....	1,784
Total	<u>70,065</u>

CONFISCATED FISH DONATED TO CHARITABLE INSTITUTIONS JULY 1,
1919, TO JUNE 30, 1920

	Pounds
St. Mary's Hospital, Decatur.....	90
Macon County Hospital, Decatur.....	150
Provident Hospital, Chicago.....	1,768
Illinois Technical School for Girls, Chicago.....	991
Argo Strikers, Argo.....	230
Free Kindergarten, Galesburg.....	215
Jewish Shelter Home, Chicago.....	300
Working Boys' Home, Chicago.....	339
St. Elizabeth Hospital, Madison.....	150
Woodland Orphans' Home, Quincy.....	37
City Hospital, Monmouth.....	20
House of Good Shepherd, Chicago.....	120
St. Mary's Hospital, Quincy.....	200
Illinois State Baptist Orphanage, Carmi.....	110
Henry County Home, Cambridge.....	32
Total	<u>4,752</u>

DIVISION OF ANIMAL INDUSTRY

W. W. WRIGHT, *Superintendent*

A. T. PETERS, *Chief Veterinarian*

The work of the Division of Animal Industry shows a constant increase, especially in the matter of the control of bovine tuberculosis. As stated before in reports, our policy has been one of service to men engaged in the live stock industry. Much of the detail of the work cannot be shown in a report of this kind as it has been of a general constructive nature.

We still have the cooperation of the United States Bureau of Animal Industry in connection with the control work of tuberculosis, the eradication and control of the contagious diseases among swine, as well as in the matter of inter-state shipment of all live stock. The relations of the division with the Federal Bureau and the various state departments continue to be most cordial.

SHIPMENTS OF LIVE STOCK FROM ILLINOIS, JULY 1, 1919, TO JUNE 30, 1920.

State.	No. ship-ments.	Cattle.	Horses and mules.	Hogs.	Sheep.	Goats.	Dogs.	Total.
Alabama.....	1,127	71	26,793	17	3		2	26,886
Arizona.....	2		1	8				9
Arkansas.....	663	44	13,456	27	1			13,528
Australia.....	1	2						2
California.....	28	33	17	12			1	63
Canada.....	9	7	7	2				16
Colorado.....	30	117	67	11				195
Connecticut.....	38	5	700	11				716
Cuba.....	2	61						61
England.....	1						1	1
Florida.....	112	2	2,208	11	900			3,121
Georgia.....	12		30	19				49
Idaho.....	6	3	6	8				17
Indiana.....	749	1,474	783	721	49			3,027
Iowa.....	1,002	2,423	1,924	1,356	87			5,790
Kansas.....	55	257	94	36				387
Kentucky.....	496	226	8,434	32	260			8,952
Louisiana.....	578	748	12,680	6	4			13,438
Maine.....	1		25					25
Maryland.....	17	95	53	1	102			251
Massachusetts.....	7	18	8	2				28
Mexico.....	23	987						987
Michigan.....	664	372	2,075	130		3		2,580
Minnesota.....	281	327	725	159	28			1,239
Mississippi.....	1,458	33	34,942	36	2			35,013
Missouri.....	465	1,381	771	676	1,444			4,272
Montana.....	29	58	46	9	52		2	167
Nebraska.....	48	43	49	29				121
New Hampshire.....	6	29	77					106
New Jersey.....	2		1	1				2
New Mexico.....	4	1	4	5				10
New York.....	89	66	1,104	17	203			1,390
North Carolina.....	417	19	9,868	8				9,895

SHIPMENTS OF LIVE STOCK FROM ILLINOIS—Concluded.

State.	No. ship-ments.	Cattle.	Horses and mules.	Hogs.	Sheep.	Goats.	Dogs.	Total.
North Dakota.....	75	121	124	16		1		262
Ohio.....	34	383	185	50	54			672
Oklahoma.....	72	108	441	12				561
Oregon.....	11	4	35	10	1			50
Pennsylvania.....	55	107	247	7	510			871
South America.....	36	145		5				180
South Carolina.....	698	16	16,682	14				16,712
South Dakota.....	133	205	176	31	2			414
Spain.....	1		425					425
Switzerland.....	1	60						60
Tennessee.....	1,722	112	32,853	311	145			33,421
Texas.....	119	161	554	80	72	1		868
Utah.....	3	11	6				1	18
Vermont.....	5	1	43	1				45
Virginia.....	17	9	8	43	230			290
Washington.....	19	31	28	54				113
West Virginia.....	94	21	1,420	19				1,460
Wisconsin.....	1,184	1,112	4,159	196	17		1	5,485
Wyoming.....	17	68	21	7			5	101
Total.....	12,718	11,517	174,415	4,206	4,166	5	13	194,322

SHIPMENTS AND DISPOSITION OF FEEDER CATTLE FROM PUBLIC STOCK YARDS AS SHOWN BY OWNERS' REPORTS TO THIS DIVISION—JULY 1, 1919—JUNE 30, 1920.

Yards.	Number shipped.	Slaughtered.	Tested.	Passed.	Reactors.	Suspicious.	Sold quarantine.	Died.	Castrated.	Number shipments.
Union.....	38,651	17,434	6,200	6,061	135	4	725	71	269	1,515
National.....	29,134	15,240	2,512	2,498	13	1	528	21	23	1,387
Kansas City.....	21,759	9,594	859	853	6		1,014	72	551	703
South Omaha.....	2,559	526	269	268	1		179	3		87
South St. Paul.....	8,498	4,090	259	256	3		311	7		277
Miscellaneous.....	2,490	543	670	667	1	2	80	3		67
Peoria.....	62		37	37						3
Indianapolis.....	254	141					21			4
Sioux City.....	568	134								16
South St. Joe.....	149	57								3
Wichita.....	71						70			3
Independent.....	82	47					10			4
Total.....	104,277	47,806	10,806	10,640	159	7	2,938	177	843	4,069

REPORT ON HOGS

The tendency through the northern three-quarters of the State of Illinois during the past year seems to have been to produce less hogs on the farm and to depend more upon the buying of feeder hogs on the open markets from the various stock yards.

The following table shows the number of hogs brought into the State of Illinois during the last fiscal year; also the loss from death. There always has been some question as to the advisability of taking these hogs from the yards to the country:

Name of stock yard.	Number shipped.	Died of disease.	Total lost.	Percentage of loss.
Union Stock Yards.....	2,128	108	118	12
National Stock Yards.....	27,012	1,651	1,676	12.5
South St. Joseph Stock Yards.....	284	13	14	4.9
Kansas City Stock Yards.....	37,471	1,725	1,751	12.74
South St. Paul Stock Yards.....	15,548	353	373	4.52
Wichita, Kansas Stock Yards.....	607	9	9	1.4
Indianapolis Stock Yards.....	580	13	13	2.2
Danville Stock Yards.....	2,185	29	39	1.7
Detroit Stock Yards.....	451	-----	5	.11
Nashville Stock Yards.....	5,432	-----	88	.16
Ft. Worth, Texas Stock Yards.....	166	-----	39	2.3
Memphis, Tennessee Stock Yards.....	423	-----	-----	-----
Kentucky Stock Yards.....	1,134	42	45	3.9
Oklahoma City Stock Yards.....	406	-----	34	8.3
Denver Stock Yards.....	257	-----	3	1.1
Omaha Stock Yards.....	112	-----	-----	-----

BOVINE TUBERCULOSIS

In the matter of control of bovine tuberculosis, much progress has been accomplished in this State, and a great deal of the credit for that work is due to the cooperative plan between the Federal Bureau of Animal Industry and the State, known as the Accredited Herd Plan.

During the fiscal year we have tested 631 herds, totaling approximately 21,794 cattle, of which 1,771 animals reacted.

We now have 66 herds fully accredited in the State and approximately three hundred on the waiting list, which we have not been able to get to up to this time. Five hundred seventy-five herds in the State of Illinois have had at least one test. The fact that the breeders are giving this plan their hearty support leads us to believe that we have at last been able to get started on a constructive and progressive program for the control of this disease.

In regard to the matter of cattle coming into the State, Illinois has received 1,631 pure-bred animals for breeding purposes during the past year. These animals were tested for tuberculosis within 60 days after their arrival in this State and 58 reacted, making a percentage of 3.1. The diseased cattle were either slaughtered or shipped back to the original owner.

This method of testing the animals which are brought into the State for breeding purposes not only protects the purchaser but also catches those animals which are apt to spread the disease in the State.

During the last fiscal year, 2,054 individual tests were made, exclusive of those under the Accredited Herd Plan, comprising 28,874 animals, of which 1,779 reacted, being 6.1 per cent of those tested.

The following table shows the number of reactors slaughtered in the stock yards where the meat was inspected under Government inspection; also the number used for food and the number condemned, etc.:

Number showing lesions (used for food).....	2,046	82 per cent
Number sterilized	64	2.5
Number condemned	293	11.5
<hr/>		
Total showing lesions.....	2,403	96 per cent
Died	22	1
No lesions	71	3
<hr/>		
	2,496	100 per cent

STALLION REGISTRATION

During the fiscal year ending June 30, 1920, 854 new pure-bred stallion licenses were issued, and 297 grade licenses; 244 pure-bred jack licenses and 472 for grades, a total of 1,867 licenses. Of this number 89 were taken out during the last half of 1919; expiring December 31, the remaining 1,778 covering the calendar year of 1920.

We also renewed 3,994 licenses previously issued, making 5,772 licenses now in effect.

During the year, 624 licenses were transferred on our books and 17 duplicate licenses were issued.

A larger number of fines for violation of the law were collected than during any previous year, the receipts from that source amounting to \$775.00.

The total receipts for the year amounted to \$8,832.00.

DIVISION OF APLARIES

A. L. KILDOW, *Chief Inspector*

The Division of Apiaries was again handicapped by the wage scale being so low that needed help could not be secured. In order to obtain skilled assistants, the law limiting salaries per diem should be amended.

We received many calls for assistance which were answered as promptly as possible. Three hundred and ninety-two apiaries, containing 7,774 colonies were visited, and 108 of these apiaries were found to have disease. These diseased apiaries were treated by inspectors and owners of the apiaries.

Special instruction work was given at the State Fair, which by its welcome reception, showed that the bee-keepers are anxious to learn. Another encouraging feature is the number of county associations that are being organized. One was organized at Edwardsville by the bee-keepers of Madison County and another at Cambridge, Henry County, and one is in progress of organization at Carbondale, Jackson County.

A very beneficial field meet was held at Putnam, and another at Cambridge.

Last fall bees went into winter quarters in good condition. They wintered with about the average loss, but owing to the peculiar, backward spring, the spring dwindling was heavy.

The clovers wintered well, but the weather conditions were unfavorable. Only a few localities were favored with bloom that yielded nectar, hence the crop of white honey was very short, taking the State as a whole.

In conclusion, considering the wage scale allowed by law, we accomplished far more than was anticipated.

DIVISION OF APIARIES

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APIARY INSPECTION

Date.	Number colonies.	Number apiaries visited.	Number diseased.	Number having A. F. B.	Number having E. F. B.	Number days.	Expense.	Supplies and postage.	Per diem.	Remarks.
1919										
November.....	40								\$28 00	By inspector.
December(a).....									12 00	By inspector.
1920										
February (b).....	90								8 00	By inspector.
March.....									24 00	By inspector.
April.....	350								4 00	By deputy
April.....	235								76 00	By inspector.
May.....	125								32 00	By deputies.
May.....	1,117								32 00	By inspector.
June.....	12								120 00	By deputies.
June.....	1,061								20 00	By inspector.
July.....	995								128 00	By deputies.
July.....	1,270								64 00	By inspector.
August.....	570								108 00	By deputies.
August.....									84 00	By inspector.
August.....	403								112 00	By deputies.
September.....	190								60 00	By inspector.
September.....	1,216								76 00	By deputies.
October.....	200								68 00	By inspector.
Total.....	7,774								\$1,058.00	

(a) State convention at Springfield.

(b) Office work.

(c) With inspector for instruction.

(d) Instruction work.

(e) Instruction work at State Fair.

DIVISION OF PLANT INDUSTRY—PLANT INSPECTION

P. A. GLENN, *Chief Inspector*

The purpose of this division is to prevent so far as possible the introduction into and the spread within the State of injurious insect pests and plant diseases. Aside from the usual pests three new ones have claimed our attention, the European corn borer, a dangerous pest of corn which has been discovered in New York and Massachusetts; and flag smut and take-all, two dangerous diseases of wheat, new to this country, which were discovered in Illinois for the first time in the spring of 1919.

NURSERY INSPECTION

During the year, 221 nurseries aggregating 2,290 acres, have been inspected, and 42 nurseries aggregating 1,092 acres have been inspected a second time for the purpose of eliminating the San Jose and oyster-shell scales.

The following is a classification of the nurseries with respect to acreage inspected in 1919, as compared with those inspected in 1918:

Acreage.	1918-1919	1919-1920
100 acres or more.....	8	10
50 acres or more, but less than 100.....	6	2
25 acres or more, but less than 50.....	6	7
10 acres or more, but less than 25.....	23	22
5 acres or more, but less than 10.....	20	24
2 acres or more, but less than 5.....	36	39
1 acre or more, but less than 2.....	50	38
Less than 1 acre.....	85	79
Total.....	234	221

Certificates were issued, as follows:

- 198 nurseryman's certificates.
- 104 dealer's certificates.
- 46 outside-nursery permits to employ agents in the State.
- 1,252 agent's permits.

The following is a list of the pests found in the nurseries and the number of times each pest was made the subject of requirements before issuing the certificate:

Names of pests.	Number of times.
San Jose scale.....	68
Oyster-shell scale	53
Anthracnose	52
Scurfy scale	45
Poplar and willow borers.....	41
Strawberry leaf-spot	26
Woolly aphids of the apple.....	25
Miscellaneous borers	22
Crown-gall	11
Peach-tree borer	6
Pear blight	5
Common barberry	5
Forbes scale, et al.....,.....	4
Rose scale	1
Pear blister-mite	1
Red spider	1

FOREIGN SHIPMENTS

Federal Quarantine No. 37, prohibiting the importation of nursery and florist stock from foreign countries, except fruit stock, tree and garden seeds, and certain bulbs, has relieved this division from the necessity of inspecting this class of stock. The quarantine, however, requires the inspection of bulbs which heretofore had been admitted without inspection. Since thousands of cases of bulbs are imported annually in the fall, we were not able to take care of this work satisfactorily.

By the employment of an extra inspector for one month, we were able to inspect 180 of the larger shipments. Toward the close of the season, arrangements were made with the Federal Horticultural Board by which these shipments were inspected at the seaboard ports by Federal inspectors.

Altogether we had notice of the arrival of 488 shipments of bulbs, aggregating 28,935 cases.

The principal pests found in these shipments are mites and thrips, which are already quite generally distributed and which in this climate are of importance only in greenhouses.

INSPECTIONS OF ORCHARDS AND OTHER PRIVATE PREMISES

For the protection of nurseries and other trees and shrubs, 1,060 premises were inspected for the presence of the San Jose scale. Five hundred and sixty-six of these were found to be infested and orders accompanied by full instructions were sent to the owners of the same, requiring the treatment of the premises.

Fifty-seven premises were treated by inspectors of this office at a cost as assessed against property owners of \$163.90.

A power sprayer mounted on a motor truck was added to the equipment for the purpose of treating infested premises for the treatment of which no other provision is made.

THE OYSTER-SHELL SCALE

The oyster-shell scale is becoming a serious menace to forests, shade trees and ornamental shrubs in the northern half of the State.

A complete survey was made of Urbana, and a partial survey of Champaign. Nearly all poplar, ash, dogwood, lilac, and *Rosa rugosa* were found to be infested by the scale. Many large ash trees along the streets and lilac and dogwood in parks and lawns were dead and many more in a dying condition.

Two conferences were held with experts in the Botany and Horticultural Departments of the University and the Division of Natural History Survey for the purpose of outlining a program for dealing with this menace.

As a result a communication signed by all those attending the conferences was addressed to the councils of the Twin Cities, urging them by ordinance to:

- (a) Provide for a city forester.
- (b) Prohibit for 15 years the planting of trees and shrubs susceptible to this scale and the gradual elimination of the same.
- (c) Provide for the purchase of large park sprayers, and designate spray weeks by proclamations of the mayors.

This communication was favorably received and plans are being made to carry out most of the regulations.

Surveys of all the cities in the northern half of the State should be made and the city authorities interested in combating this pest.

CEDAR RUST

Early in March, 1920, a petition was received signed by over one hundred land owners of Union County, complaining that the commercial orchards were being seriously injured by cedar rust occasioned by the large number of red cedar trees growing near them, and asking the Department of Agriculture to take suitable steps to abate the nuisance.

After a preliminary investigation and a public hearing called at Anna on May 8, this department issued a notice requiring the eradication of all the red cedar trees growing on 105 sections comprising the orchard district.

Up to June 30, 376 premises on which were growing approximately 20,400 cedars had been listed and the owners advised to remove the same by January 1, 1921. Property owners, with a few exceptions, approve the action of the department and their cooperation is assured.

THE EUROPEAN CORN BORER

A proclamation of Governor Lowden issued January 2, 1920, for the purpose of preventing the introduction into Illinois of the European corn borer from the New England States, Pennsylvania, and New York,

required all corn shipped from those states into Illinois to be shipped via Urbana where it was inspected.

Eighteen shipments aggregating approximately 3,500 bushels were inspected. No traces of the corn borer were found.

BARBERRY ERADICATION

This campaign is being conducted in cooperation with the United States Department of Agriculture.

Up to June 30, 1919, Federal inspectors had located 4,032 plantings containing 43,471 bushes, and 2,140 plantings containing 23,440 bushes had been removed. During the present year 2,161 additional plantings containing 38,920 bushes were located and 3,294 plantings containing 39,289 bushes were reported removed. A total of 6,193 plantings, containing 82,391 bushes have been listed and a total of 5,434 plantings containing 62,729 bushes have been removed, leaving 759 plantings, containing 19,662 bushes which have not yet been removed.

The owners of these 759 plantings have been urged repeatedly to remove them. It will be necessary for the Department of Agriculture to see that they are removed.

FLAG SMUT AND TAKE-ALL

In the spring of 1918, flag smut was discovered in 20 wheat fields in Madison County and take-all in 30 fields in Madison County, 42 fields in Mason County and one field in Sangamon County. This is the first occurrence of these diseases of wheat reported in this country.

To prevent the spread of these diseases and to eradicate them, if possible, the Director of Agriculture ordered that all the wheat in the infected fields be disinfected as the grain came from the threshing machines, that all straw be burned, that infected fields be left until the last, that threshing machines be disinfected after completing the threshing of infected grain, and that no wheat or small grain be sown on the infected fields.

The Federal Bureau of Plant Industry cooperated in this work to the extent of furnishing the disinfectant and the men to apply it.

Flag smut was found again this spring in 111 fields in Madison County within an area of 45 square miles. Take-all was found in 7 fields in Madison County and 3 fields in Mason County. None was found in Sangamon County.

Cooperative arrangements were made with the United States Department of Agriculture to disinfect the wheat in the infected areas in Madison and Mason Counties, aggregating about 200,000 bushels, at threshing-time, and to require the disinfection of all wheat sown in this area with the copper sulphate-lime treatment under supervision of the department.

FINANCIAL STATEMENT

	Appropriations.	Expenditures.	Balance.
Salaries and wages.....	\$8,100.00	\$7,906.76	\$193.24
Office expense.....	400.00	463.65	—63.65
Travel.....	3,500.00	4,256.64	—756.04
Operation.....	450.00	350.48	99.52
Repairs.....	50.00		50.00
Equipment.....	2,880.00	2,277.13	602.87
Contingent.....	200.00	24.01	175.99
Disinfection of wheat.....	(5,000)		
	\$15,580.00	\$15,278.67	\$301.33

From the financial statement above it will be seen that the office expense and travel appropriations were not sufficient for our needs. It was necessary to drop one of the permanent inspectors March 31 on account of lack of traveling expense funds.

GENERAL SUGGESTIONS AND RECOMMENDATIONS

In addition to its usual program this division will have to continue the cedar rust work in Union County, the flag smut and take-all work in Madison, Mason and Sangamon Counties, and will have to put some men at work to complete eradication of barberries from the premises whose owners have neglected or refused to remove them on the solicitation of the Federal inspectors.

This will necessitate an addition of at least three permanent and two temporary inspectors to our present force, and provisions should be made for them in our next budget.

Much of this new work is of such a character as to make it necessary to have a Ford car, and one should be purchased immediately out of funds which are now available.

In attempting to secure inspectors at a salary of \$1,400, men approached have declined the offer in favor of available positions ranging from \$1,600 to \$2,400.

Increased appropriations will be needed to meet the extra expense of carrying out the enlarged program which has been forced upon this division.

DIVISION OF PLANT INDUSTRY—SEED INSPECTION

ALBERT C. WILSON, *Chief Seed Analyst*

The Fifty-first General Assembly passed a seed law and provided for a division consisting of a chief seed analyst, assistant analyst, two seed inspectors, and a stenographer.

Being appointed Chief Seed Analyst on July 21, 1919, the work of establishing a laboratory and office was the first duty. After the equipment was ordered the rules and regulations governing the Seed Law were prepared and submitted at a conference of seedsmen of the State, on August 14, 1919. At this conference these rules and regulations were discussed and agreed to by the seedsmen present, and were then printed in bulletin form in connection with the Seed Law as passed by the legislature. This bulletin, No. 273, was sent to all seedsmen and also distributed to farmers through the farm advisors. Newspaper items were also published in every paper in Illinois so that the requirements of the law would be brought to the attention of all interested parties at the earliest possible time.

Meetings of farmers and farm advisors were attended and information given in regard to the operation of the law, and the results have been very satisfactory, showing that the time was well spent. The wholesale seed dealers in Chicago, St. Louis and Milwaukee were visited and the law discussed very carefully with them, and in every case this resulted in a better understanding by them and a much better feeling toward the department and the work of enforcing the law. The spirit of cooperation manifested and promised by these seedsmen proved to be, in most cases, genuine; therefore, the task of administering the law was simplified very much indeed. Assistance was given in the short course on seed analysis at the College of Agriculture at Urbana.

The equipment for the office and laboratory arrived the latter part of September, 1919, and was installed in Rooms 428-431 DeWitt Smith Building, and the analysis work was taken care of as samples came in. Before the equipment arrived all samples were analyzed by other laboratories, part being analyzed by the United States Department of Agriculture at LaFayette, Indiana, and the balance by the Seed Laboratory of the College of Agriculture at Urbana. This made it possible for this division to function immediately, which fact was greatly appreciated.

Samples came in so fast that it was necessary to have additional help in November and December of 1919. In January, February and March, 11 extra persons were required to take care of the work and

issue the report the same day the sample was received in the laboratory. Often this was not possible because the samples did not contain the two ounces required, and analysis could not be made until the additional amount had been received, which sometimes took several days. In April the force was cut to six extra persons, and later the work was handled by the regular force.

During the year, 3,321 samples were analyzed and reported. Of this number, 3,301 were sent to this office by mail or brought in person by farmers and seedsmen. Forty-six were sent in by request so that an official analysis could be made to check up the purity analysis as shown on the label or tag when sold. Forty-two samples were submitted for analysis representing crop seed not mentioned in the law. These were not analyzed because it would delay reports on other samples which were controlled by the law.

Of the above number of samples analyzed, 377 were found to be unsalable for seeding purposes on account of the presence of noxious weed seeds in greater proportion than the law would allow. In many cases the seed represented by these samples was recleaned and new samples submitted and found to be salable. In others the seed was sold to dealers who had facilities for recleaning. Twenty-five samples represented seed offered for sale, but which was not bought when the analysis was known. Thirty-nine samples were returned to the dealer or owner upon being found unsalable for seeding purposes. Eighty-one samples were sold to wholesalers for recleaning.

The majority of the samples were submitted by farmers, which goes to show that they are interested in pure seed and are trying to comply with the law. Some of the samples analyzed were taken from shipments made to farmers and dealers by seed firms located outside of the State, and in every case where the seed was not satisfactory to the purchaser after he saw the analysis, the shipper ordered it returned and refunded the purchase price.

The samples analyzed consisted of the following numbers of each kind:

Red clover	2,097	Alsike	270
Timothy	602	Other grasses	332

The unsalable samples consisted of the following:

Red clover	273	Alsike	27
Timothy	47	Other grasses	30

The following table of noxious and common weeds and the number of samples in which they appeared shows which are most common:

NOXIOUS			
Curled dock	1,133	Dodder	18
Buckhorn	677	Wild mustard	10
Field sorrel	301	Ox-Eye daisy	8
Wild carrot	49	Corn cockle	3
Canada thistles	29	Quack grass	2

COMMON

Green foxtail	1,306	Lamb's quarters	186
Broad leaved plantain.....	507	Spurge	123
Crabgrass	476	Night flowering catchfly.....	116
Yellow foxtail	457	Sedge	60
Smartweed	442	Prickly lettuce	39
Witchgrass	357	Yellow trefoil	24
Pigweed	305	Paspalum	23
Ragweed	291	Russian thistle	20
Bracted plantain	248	Panicum	12
Barnyard grass	222	Wild buckwheat	7
Peppergrass	212	Morning glory	3
Cinquefoil	190	Horse nettle	1

CANADA THISTLE COMMISSIONERS

The reports from the Canada Thistle Commissioners during the past year show that only a very few are active in the enforcement of this law. Twenty-five commissioners reported, and these reports show the presence of patches of thistle ranging from several in a township to 972. It would seem that the time had come for a more rigid enforcement of the law. The bulletin on the weed control laws of the State as issued by this division, has been of considerable help in stimulating an interest in this law, and the supervisors in some counties have organized a special program with resolutions to the effect that the Canada thistle law must be enforced. The reports show an expenditure of money as high as \$430 per township in connection with the eradication of this pest.

The prevalence of weeds in seed offered for sale, and the results being obtained by the Canada Thistle Commissioners, suggested the problem of weed control and their eradication. In consultation with the Crop Production Department of the College of Agriculture at Urbana, it was decided to publish a bulletin giving the weed control laws of the State. This was prepared by this division, but owing to the delay in printing, was not ready for distribution before the end of the year.

At the close of the seeding season, the analysis work was ended, therefore, new activities were started, and this provided work for all summer. In cooperation with the Crop Production Department of the College of Agriculture, a weed garden of 65 different weeds was started, May 20, 1920. The problem involved in the investigation was to study carefully the life history of the noxious weeds mentioned in the Seed Law and also some of the more common weeds of the State, in order to obtain first hand data that would be of assistance in the campaign against weeds. Some of the things to study in this connection are the production of seed by our worst weeds; as Canada thistle, quack grass, the bindweeds and others; the time of seeding of individual weeds, their habitat, methods of distribution, best method of control, etc.

In addition to the weed garden, careful observations were made of weeds growing in fields, waste places and along roadsides. This work

covered the entire summer, therefore, full report cannot be made until the next annual report.

Assistance was given by this division in connection with corn root rot investigation, also in the inspection of fields infested with flag smut in Madison County.

The opportunity of visiting the Seed Laboratories of the eastern states and the Federal Department at Washington, D. C., was of value in that it permitted a comparison of the results obtained by the enforcement of the seed laws which had been in force for a greater length of time than the law of this State, also to learn their methods of enforcement.

COMPLAINTS

During the year some fifteen complaints were made to this division regarding seed firms, and all were handled in a satisfactory manner to both parties. It has been the aim of the division to handle all complaints justly and without recourse to the penalties of the law, unless it appeared necessary. Seed companies have cooperated splendidly and have shown a willingness to comply with the law. Two hearings were granted on violations of the law. One firm was located outside this State, and the other firm was within the State, both managed by the same officers. Seed shipped was not properly tagged and some of it was found to be of low quality and was ordered returned. At the hearings, the manager of these firms agreed to make the necessary changes in his firms so that all seed sold by them in this State would be in compliance with the law. Three complaints were received concerning the sale of crimson clover, one regarding fetereta clover, and one on Japan clover and one regarding weeds in oats sold for seed. These oats had been shipped into this State from Iowa and contained mustard seed. Two definite complaints were made concerning quack grass and a great many on Canada thistles. Information on the eradication of these weeds was given.

The Seed Law has been a very decided benefit to the farmers of this State, and yet many of the farmers have not taken sufficient interest in the law to become thoroughly familiar with its requirements; consequently, in many cases, defeating its real purpose. It is hoped that all will soon become educated to the great value of a seed law and do their utmost to help in its enforcement.

Considerable assistance has been given in the identification of weeds and weed seeds, and suggestions offered regarding recleaning of seed containing a high percentage of foreign matter.

Exhibits were made at the State Fair in August, 1919, and at the International Live Stock Show in Chicago in December, 1919. This division was assisted in making these exhibits with material loaned by the Crop Production Department of the College of Agriculture.

The Convention of the Association of Official Seed Analysts of North America was held in St. Louis December 28 to 30, 1919, at which a paper was given by this division on "Tolerance Limits in Weed Seeds." The annual meeting of the American Seed Trade Association held in Milwaukee June 21 to 24 was also attended.

ANALYSIS FEES

A net total of \$286.80 was received during the year for analysis fees, a charge of 50 cents being made for each sample analyzed in excess of the five which were tested free of charge on samples of clover, alfalfa, timothy, vetch, rape and millets and a charge of \$1.00 being made for the extra samples of Kentucky blue grass, brome grass, orchard grass, meadow fescue, oat grass and rye grass. This is in accordance with section 7 of the law. Also charge was made to those firms located outside of Illinois who desired the analyses.

RECOMMENDATIONS

It is recommended that, if consistent with the views of other interested parties, the present Seed Law remain practically as it is for the next two years. This would avoid any confusion a change might make, and allow sufficient time for all to become thoroughly familiar with the present law. There are some changes which seem necessary, however, such as including other noxious weeds and adding cereals to the farm crops already listed. The noxious weed seed content should be expressed in terms of weight, instead of proportion. There is considerable sentiment that the sale of all seed containing Canada thistle and quack grass seed should be prohibited.

Additional appropriations are recommended for the work, so that more attention can be given to weed control and field inspections to secure data concerning the most troublesome weeds.

It is also recommended that the present Canada thistle law be amended so as to include other noxious weeds and to provide better compensation for the commissioners.

DIVISION OF FOODS AND DAIRIES

JAMES L. McLAUGHLIN, *Superintendent*

This division is still experiencing great difficulty in securing competent employees to carry on the work assigned to it and to meet the constant demands made upon it by the consuming public for the analyses of articles of food to determine whether or not they comply with the pure food law and whether or not they are fit for human food. It has been impossible to keep a sufficiently large staff of chemists to do all that needs to be done, but the division has done the best it could with the force it was able to obtain. But for the fact that two of the division chemists have arrived at that period in their service where they receive much larger salaries than does the beginner, the laboratory would have been without any chemists the greater part of the time during the past year.

It has been impossible to secure a State analyst and Mr. Brinsmaid is still acting in that capacity. No bacteriologist has been secured, but in cases requiring it, the services of a commercial bacteriologist have been obtained. However, the division has done the best it could under these difficulties and much has been accomplished.

The Division of Purchases and Supplies has called upon the division to make analyses and determine whether or not supplies for which the State was contracting came up to specifications. This work has required the time of one chemist, and sometimes more. It has served to protect the State and the State wards.

The Fifty-first General Assembly enacted the Egg Law, the Commission Merchants' Law, and the amendment to the Dairy and Food Act, providing for the licensing of ice cream manufacturers. All of these acts provide for the issuance of licenses, and together with former provisions for cream testers' licenses, cold storage licenses and egg breaking licenses, created a great deal of additional work for the division.

A license clerk is provided for this work, but it is impossible for one man to handle it adequately.

The Attorney General has interpreted the various sections of these acts and conferences have been held by representatives of the divisions with associations interested in the various laws. This has resulted in a fairly good understanding of the department's interpretation of the laws.

Chicago is the largest cold storage center in the world. Under the Cold Storage Law, goods must not remain in storage for a period of more than 12 months. There are at present 52 cold storage houses operating under license, with approximately 87,700,000 square feet of storage space.

All warehouses are licensed under the Cold Storage Law and make a monthly report to this office of all food stuffs in storage 11 months. This report gives the name of the owner, the name of the commodity, the date when placed in storage, the number of packages and weight. Notice is then sent to the owner of the goods, either to remove them or to ask for an extension of time, setting forth the reason for applying for an extension.

If, upon inspection of the goods, they are found in good condition and there is no available market, or weather conditions are against marketing, (for example, the placing of storage fish on the market during the summer months) an extension of time may be granted with the provision that every effort will be made to place the goods on the market before the extension of time granted has expired. The number of lots reported to this division monthly, on foods approaching the twelve-month period in cold storage, varies with the season, but on the average will run 200 to 250 per month.

In the enforcement of this law, the division has had the cooperation of the cold storage warehouses. It has been necessary, since the enactment of the law, to instigate court proceedings against only two concerns who failed to comply with the notices of removal or extension. In both cases, convictions were obtained, the court assessing fines and ordering the goods removed from storage and placed on the market, and warning was given by the court to the concerns not to let a similar condition arise again.

Following are some statistics giving the financial report of the division, the number of samples collected, the amount of foods condemned as unfit for human use, the number of samples analyzed, hearings held, cases prosecuted, convictions secured, and licenses issued:

**DIVISION OF FOODS AND DAIRIES—SUMMARY OF WORK FOR YEAR ENDING
JUNE 30, 1920**

Made 46,728 inspections.

Made 37,439 reinspections.

Analyzed 2,673 samples of food collected by inspectors.

Analyzed 309 samples of food sent in by farm advisors and other people throughout the State.

Analyzed 310 samples of food for Division of Purchases and Supplies.

Condemned as unfit for human food:

Eggs, 2,195 dozen.

Molasses, 30 gallons.

Pickles, 980 gallons.

Vinegar, 180 bottles.

Raisins, 5,546 pounds.

Candy, 108,965 pounds.
 Cheese, 21,500 pounds.
 Poultry, 3,290 pounds.
 Meat, 74,180 pounds.
 Fish, 452,095 pounds.
 Canned goods, 199,733 pounds.
 Miscellaneous foods, 184,209 pounds.

Held hearings in 1,622 cases.

Prosecuted and secured convictions in 910 cases for violation of Food and Sanitary Laws.

Fines in above cases turned into State and county treasuries.....	\$12,987
Examined and licensed 2,164 applicants for testing cream; collected and turned into the State Treasury therefor.....	2,164
Examined and licensed 49 cold storage plants, for which there was paid into the State Treasury.....	1,225
Examined and licensed 14 egg breaking plants, for which there was paid into the State Treasury.....	4,200
Licensed 539 commission merchants and received bonds for same, for which there was paid into the State Treasury.....	5,390
Licensed 6,263 Class 1 egg dealers, for which was paid into the State Treasury	6,263
Licensed 1,508 Class 2 egg dealers, for which was paid into the State Treasury	7,540
Inspected the plants and licensed 305 wholesale ice cream manufacturers, for which was paid into the State Treasury.....	3,050
Licensed 635 retail ice cream dealers, for which was paid into the State Treasury	635
Licensed 189 different fertilizers, for which was paid into the State Treasury	3,780
Licensed 1,621 different brands of stock feed, for which was paid into the State Treasury.....	40,525

Total revenue produced by Division of Foods and Dairies..... \$87,759

DIVISION OF DAIRY EXTENSION

LEWIS N. WIGGINS, *Superintendent*

Following the plan as set forth in the division report for the year ending July 1, 1919, we have continued in the promotion of county dairy organizations, calf clubs, cow test associations, bull associations, and have been more active than ever before in the holding of dairy meetings at which lectures were delivered and our "Foster Mother of the World" motion picture shown.

The various organizations of the dairy industry have united in their support and close cooperation with our work, and we have been able to demonstrate the great value of the motion picture as a medium by which to bring more vividly before the people the important facts regarding efficient dairying and the great value of dairy products to humanity. At the Division of Dairy Extension meetings the "Foster Mother of the World" motion picture was shown, lectures were delivered by capable men and literature was distributed for the improvement and extension of the dairy business. These meetings have been very successful, as is shown by the many favorable comments which we have received on them, excellent write-ups given us by newspapers throughout the entire State, engagements and return engagements solicited without our suggestion, many of which we were unable to fill.

PLAN OF MEETINGS

The division makes arrangements with a representative in the city to secure the hall, do the local advertising which is suggested by us, display posters, distribute literature throughout the city and vicinity, all these expenses being assumed by the local committee. The division displays the "Foster Mother of the World" motion picture and supplies the speakers. At the larger meetings we have had one or more speakers in addition to our regular force.

A list of meetings held and number present at each meeting accompanies this report.

THE "FOSTER MOTHER OF THE WORLD" FILM

The "Foster Mother of the World" dairy motion picture, which has been shown at all of our meetings during the year ending June 30, 1920, has proven a most valuable factor in our extension work, it having been declared over and over again to be the greatest industrial production of its kind ever gotten out in this section of the country. It carries

the dairy animal from the small calf to the full-grown cow, shows what a perfect cow should be, what a perfect bull should be, lays emphasis on what can be accomplished by the use of good bulls, shows the proper methods of feeding dairy cattle and caring for dairy products on the farm. It also shows the different processes of manufacture, illustrating how the product is carried from the cow to the consumer in all the different branches of manufacture, and emphasizing the actual value of dairy products by making comparisons with other articles of food.

In short, this film gives an insight into the dairy business, which it would take the average person many months to obtain in any other manner.

LECTURES BY DIVISION REPRESENTATIVES

In the lectures delivered by Division of Dairy Extension representatives at these meetings we have had one object in view, that of showing the farmers of this State how to increase production, and how to lower the cost of production, thereby enlarging their profits in the only ideal manner. Believing this is best done by the proper use of the dairy cow, this work has been directed primarily to the dairy industry, but in branching out, the speakers have rendered great service on general farm topics, and have impressed upon their audiences the importance of increasing the consumption of dairy products.

Evidences of results are being received in a most satisfactory manner, and far exceed our greatest expectations. The large number of testimonials as to benefit received from these meetings and the excellent newspaper write-ups, cause us to feel that we have accomplished our purpose and that the efforts put forth have not been in vain.

LITERATURE DISTRIBUTED

During the year we have continued to distribute the booklets, No. 50, "Foster Mother of the World"; Bull Booklets, "Make More Money on Your Dairy Farm"; "Delicious Products of the Dairy"; Dr. McCullum's articles on dairy products and souvenirs carrying Governor Lowden's message. We have also distributed in large quantities our silo envelope stuffer, which clearly shows the important part the silo plays on the up-to-date farm, emphasizing the great saving obtained by the use of the silo, the increase in production of dairy products, the increased live stock capacity of the farm, added fertility to the soil and the opportunity that the soil gives of saving crops.

Our envelope stuffer, No. 283, "Suggestions on the Handling of Dairy Products on the Farm," has been distributed in large quantities. We have received a great many favorable comments and letters of appreciation on this pamphlet. It clearly sets forth the proper handling of dairy products, so as to keep the dirt out of them and keep them in a clean, cool, sanitary condition.

Probably the most important and successful bulletin gotten out by us during the fiscal year, is our Bulletin No. 277, "Suggestions on the Care of the Foster Mother of the World and her Family." This bulletin takes up the handling of the dairy calf in detail, carrying the animal through the periods of its life until it is a full-grown and efficient, producing cow. It then goes into the feeding of dairy cows and in a few short paragraphs shows how it is possible for any man of average intelligence to feed his dairy animal a balanced and economical ration, which will give the very best results as to economical production. This bulletin also emphasizes the necessity of proper breeding and shows the points to be taken into consideration in the selection of the right kind of a sire.

We have received so many compliments on this bulletin and it has been received so enthusiastically by the dairymen of this State, we feel that it is, without doubt, one of the most successful dairy bulletins ever turned out. One man wrote that by following the suggestions made in this bulletin he has been able to save all of his calves this year, whereas he formerly lost the larger portion of them by a disease known as scours.

TESTING STATE INSTITUTION DAIRY HERDS

From September, 1919, to April, 1920, we made butterfat tests and kept records on each individual cow in the State institution dairy herds and believe that we were of some assistance in getting the State herds on a better business basis and in showing which were the paying cows so as to enable the State institution herdsmen more intelligently to breed, feed and otherwise improve their herds.

CONCLUSION

The division is much encouraged in the progress it has made in the promotion and advancement of the dairy industry during the past year and feels confident that with the same hearty cooperation received in the past it will be able to accomplish even greater good for the dairy cow and the consumer of dairy products during the ensuing year.

MEETINGS HELD BY DIVISION OF DAIRY EXTENSION—SHOWING "FOSTER MOTHER OF THE WORLD" MOTION PICTURE, CONDUCTING DISCUSSIONS AND DELIVERING ADDRESSES ON DAIRY SUBJECTS.

City.	Date.	Number present.	Speaker.
Golden, Ill.	Oct. 16	250	Stanard.
Effingham, Ill.	Nov. 6	300	Stanard and O'Hair.
Jacksonville, Ill.	Nov. 14	100	Stanard and Caldwell.
Mt. Olive, Ill.	Nov. 28	500	Stanard and O'Hair.
Morrison, Ill.	Dec. 3	100	Stanard.
Galesburg, Ill.	Dec. 13	100	Wiggins and Stanard.
Shelbyville, Ill.	Dec. 19	150	O'Hair and Stanard.
Bridgeport, Ill.	Dec. 22	300	Stanard.
Pana, Ill.	Jan. 2	400	Stanard and O'Hair.
Paris, Ill.	Jan. 6	50	Caldwell, Wiggins and Stanard.
West Salem, Ill.	Jan. 9	350	O'Hair and Stanard.
Millstadt, Ill.	Jan. 14	450	Stanard.
Centralia, Ill.	Jan. 20-22	1,200	Wiggins and Stanard.
Mt. Vernon, Ill.	Jan. 24	600	O'Hair and Stanard.
Newton, Ill.	Jan. 26	200	O'Hair and Stanard.
Olney, Ill.	Jan. 27	250	O'Hair and Stanard.
Bone Gap, Ill.	Jan. 28	300	O'Hair and Stanard.
Albion, Ill.	Jan. 29	350	O'Hair and Stanard.
Belmont, Ill.	Jan. 30	150	O'Hair and Stanard.
Mt. Carmel, Ill.	Jan. 31	250	O'Hair and Stanard.
Metamora, Ill.	Feb. 4	300	O'Hair and Stanard.
Charleston, Ill.	Feb. 6	150	O'Hair and Stanard.
Oakland, Ill.	Feb. 7	500	O'Hair and Stanard.
Sullivan, Ill.	Feb. 9	250	O'Hair and Stanard.
Tuscola, Ill.	Feb. 10	200	O'Hair and Stanard.
Ashley, Ill.	Feb. 25	400	Stanard.
Vergennes, Ill.	Feb. 28	300	O'Hair and Stanard.
Pinckneyville, Ill.	Mar. 2	250	O'Hair and Stanard.
Mahomet, Ill.	Mar. 5	300	Caldwell and O'Hair.
Metropolis, Ill.	Mar. 9	200	O'Hair and Stanard.
Petersburg, Ill.	Mar. 11	250	O'Hair and Stanard.
Carrollton, Ill.	Mar. 12	150	O'Hair and Stanard.
Roodhouse, Ill.	Mar. 13	150	O'Hair and Stanard.
Robinson, Ill.	Mar. 16	150	O'Hair and Stanard.
Palestine, Ill.	Mar. 17	125	O'Hair and Stanard.
Hutsonville, Ill.	Mar. 18	225	O'Hair and Stanard.
Benton, Ill.	Mar. 24	*600 †200 ‡150	O'Hair and Stanard.
West Frankfort, Ill.	Mar. 25	*1,000 †1,500	O'Hair and Stanard.

* Afternoon. † Evening. ‡ Morning.

DIVISION OF AGRICULTURAL STATISTICS

S. D. FESSENDEN, *Agricultural Statistician*

Cooperation with the Bureau of Crop Estimates of the Federal Department of Agriculture in the matter of crop reporting beginning in May, 1919, has continued with marked success during the year. Monthly instead of quarterly reports have been made, giving details by counties and furnishing better information concerning the crops and the live stock of the State.

Estimates are made of the acreages planted to the principal crops, the condition of the growing crops from month to month, the average yield per acre, total production and farm value of the most important crops, the percentages of various crops remaining on the farms at different times in the year, etc. Investigations have also been made and results published concerning the wages of male farm labor, farm land values per acre, farm labor supply and demand, the per cent of plowing and spring planting and sowing done and the average cords of firewood burned on the farm.

In the matter of live stock, reports have been made on the average weight per fleece of the wool crop and the total production of wool in the State, the number of hogs on hand for fattening in the early fall, the numbers and farm values of the principal classes of live stock on the farms of the State on January 1, the number of breeding sows on the farms in the spring, the mortality of the principal classes of live stock during the year and the condition of cattle, horses, sheep and swine on various dates.

That the reliability and informative character of these reports has been realized and appreciated by the public is shown by a very large increase in the mailing list which has taken place during the year and the great increase in the correspondence caused by requests for specific information coming not only from the agricultural classes but from the railroads and other transportation companies and from firms and corporations engaged in various lines of business.

Under the act approved June 28, 1919, providing for the collection of agricultural statistics and information by the tax assessors of the State under the direction of the Director of Agriculture, a beginning was made this year. Although the law has proved to be somewhat defective, the work has been quite thoroughly done in about one-third of the counties of the State and nearly completed in several others and the tabulation of these returns is under way. It is believed that for these

counties a fine showing will be made and that much information, not only of great importance in the work of crop reporting but of great informative value to the people of the State, has been obtained. The results of the work will be ready for publication in the near future.

On the whole, it is believed that a great advance has been made during the year in the value of this branch of the work of the Department to the people of the State.

SUMMARY OF CROP CONDITIONS, 1919

The agricultural conditions in the State during the year were varied. The crops harvested in 1919 were not above the average in production or quality. Vegetation generally suffered from drought and insect pests, notably the Hessian fly and chinch bugs which did much damage. No large yields per acre were made and that of spring wheat was quite low.

The drought was broken in the fall, pastures which had been short during the summer revived and the vegetation still growing was benefited. In spite, however, of the somewhat adverse conditions of the season, Illinois stood *third* in 1919 in the aggregate farm value of all crops according to the estimate of the United States Bureau of Crop Estimates. Only Texas and Iowa outranked her in this respect.

Scarcity of pasturage, cost of feeds, etc., caused a reduction in numbers of all classes of live stock except milch cows and mules.

Winter wheat sown on a greatly reduced acreage started in the spring of 1920 in poor condition. While some improvement was made for a time, adverse climatic conditions, Hessian fly and chinch bugs did considerable damage and a small yield only resulted.

Reduced acreages were also sown to spring wheat, oats and barley. Due to late sowing and lack of moisture the progress of these crops has not been favorable, though oats showed marked improvement in June.

Corn also was planted late this season on a slightly increased acreage. The stand was generally good though uneven. The fields were clean and well cultivated and much of the crop was laid by at the end of June. However, the crop was very backward in development at this time and chinch bugs were present in many counties.

Rains were numerous and heavy in the early spring but a condition approaching drought became apparent early in June.

Report of
THE DEPARTMENT OF LABOR
July 1, 1919, to June 30, 1920

STATE OF ILLINOIS
THE DEPARTMENT OF LABOR

BARNEY COHEN, *Director*

BURT C. BEAN, *Assistant Director*

W. C. LEWMAN, *State Superintendent of Free Employment Offices*

DIVISIONS

DIVISION OF LABOR STATISTICS

BURT C. BEAN, *Acting Secretary*

CHICAGO FREE EMPLOYMENT OFFICES

CHARLES J. BOYD, *General Superintendent*

EAST ST. LOUIS FREE EMPLOYMENT OFFICE

STEWART CAMPBELL, *Superintendent*

PEORIA FREE EMPLOYMENT OFFICE

THOMAS METTS, *Superintendent*

ROCKFORD FREE EMPLOYMENT OFFICE

PETER T. ANDERSON, *Superintendent*

ROCK ISLAND FREE EMPLOYMENT OFFICE

FRED W. RINCK, *Superintendent*

SPRINGFIELD FREE EMPLOYMENT OFFICE

LUTHER O. GERMAN, *Superintendent*

AURORA FREE EMPLOYMENT OFFICE

FRANK RADUENZ, *Superintendent*

BLOOMINGTON FREE EMPLOYMENT OFFICE

JOHN E. MATTHEWS, *Superintendent*

DECATUR FREE EMPLOYMENT OFFICE

DAN DINNEEN, *Superintendent*

DANVILLE FREE EMPLOYMENT OFFICE

W. J. PAYNE, *Superintendent*

JOLIET FREE EMPLOYMENT OFFICE

L. ROGERS, *Superintendent*

CHICAGO COLORED FREE EMPLOYMENT OFFICE

L. W. TUCKER, *Superintendent*

BOARD OF FREE EMPLOYMENT ADVISORS

F. S. DEIBLER, PH. D., *Chairman*

A. H. R. ATWOOD, M. D., *Secretary*

OSCAR G. MAYER

MRS. RAYMOND ROBINS

JOHN H. WALKER

CHIEF INSPECTOR OF PRIVATE EMPLOYMENT AGENCIES

JOHN J. MCKENNA, *Chief Inspector*

FACORY INSPECTION

ROBERT S. JONES, *Chief Inspector*

INDUSTRIAL COMMISSION OF ILLINOIS

CHARLES S. ANDRUS, *Chairman*

PETER J. ANGSTEN

ROBERT EADIE

JAMES A. CULP

OMER N. CUSTER

Mediators and Conciliators: ERNEST WITHALL, ROBERT OSBORNE

THE DEPARTMENT OF LABOR

BARNEY COHEN, *Director*

Immediately following this report will be found the detailed reports of the various divisions making up this department. In line with the policy of conservation in an era of high prices, the reports in question have been kept to the shortest space consistent with clearness.

DUTIES OF THE DEPARTMENT

The specific duties of the Department of Labor, as told in the two previous reports of this department, have to do with the improvement of labor conditions.

In the three years past a definite effort has been maintained to improve labor conditions by preventing as many of the ills to which labor is subject, as possible. Inspectors in the various divisions making inspections have been instructed to do constructive as well as corrective work. In fact, the principle of constructive work has not only been insisted upon but has been made the motto of the entire department. The mediators and conciliators, as told in the report of the Industrial Commission have not only made adjustment along constructive lines but have, wherever possible, laid a sure foundation for continuing employment by constructive as well as corrective work. Particularly in the handling of the employment problem has the constructive work been borne in mind.

This, it would seem, is the big result of the work of the department and stands apart from ordinary methods which are used in some cases to effect results.

PROSPECTIVE UNEMPLOYMENT

The free employment offices have borne the strain of "over employment;" it is possible that they may be called upon to stand the stress of unemployment in the near future. Originally designed to care for the unemployed, the State free employment offices have stood up well under conditions exactly opposite—marked scarcity of labor during the time of greatest production. As production grows less—as the period of reconstruction comes on—it will be found that the State free employment offices will, it is felt sure, care for the employment problem as well as they have cared for the "over employment problem."

A by-product of the free employment system in Illinois has been the development of a considerable number of competent workers along this line—one that will be of great importance in the future.

IMPORTANCE OF TRAINING IN EMPLOYMENT MANAGEMENT

There is little doubt that the whole industrial world is on the eve of a great forward wave in which employment matters of every kind are of supreme importance. Commercial America particularly, has been developing along production and salesmanship lines. Great attention has been paid to the development of machines which could be made to turn out vast quantities of work. This necessitated means for selling the combined product of machines and workers. In the stress for production the machine was carefully studied, but little attention being given to the worker himself. What was going on in the worker's mind—what he might do for the good or the ill of the business was considered no concern of the employer. Turnover increased rapidly—often doubling in a few months. Dissatisfaction in some cases became the rule rather than the exception.

Not until the thought was forced upon both employers and workers was it conceded that as much attention should be given to the mental side of the worker as to the physical side of the machine. It has been seen, in the free employment offices that facility in handling workers and placing them in position is based upon certain personal attributes and also upon principles of management which may be studied and acquired. In many cases employment workers have graduated from the semi-political work of the free employment office into industrial work either as placing or managing workers or both.

Employment offices of the State are, in a way, schools of instruction for workers who later take up some phase of employment management—otherwise known as “personnel work.” Despite the heavy demands of industry and the large salaries offered for this class of work, many workers have remained loyal to the State and at considerable monetary sacrifice have continued in free employment work. To such workers is due the greatest appreciation from those who have come in contact with their excellent work.

NEEDED LEGISLATION

Another year of experience in the workings of the Civil Administrative Code has shown that comparatively few changes are necessary but such changes as experience seems to indicate are vitally necessary. There seems to be some ambiguity in the wording of the law defining the exact duties of the Industrial Commission. An amendment might make the law more definite and clear by defining the relationship which exists between the Department of Labor and the Division of Industrial Commission.

There is no doubt that there should be some further extension of the Occupational Disease Act, as recommended in previous reports. Particularly there should be specific provision for compensation for diseases resulting from faulty ventilation, crowding, dusts, the handling of chemicals or the breathing of chemical fumes, and the like. Sometimes

a few months' work under heavy strain in faulty surroundings may produce ill health as surely as a moment's contact with a running saw produces disfigurement. The details of such a law, it is suggested, might well be worked out by a joint committee consisting of the better grade of employers, representatives of the various trades affected and physicians skilled in occupational disease.

FINANCIAL STATEMENT

Reference to the report of the Department of Finance—pages 17-22—will show in detail the financial condition of the department. Thanks to the hearty cooperation of the various divisions the Department of Labor has been able to live well within its appropriation and has, it is felt, secured good value for the various moneys expended in the purchase of necessary supplies.

DIVISION OF LABOR STATISTICS

BURT C. BEAN, *Acting Secretary*

The activities of the Division of Labor Statistics have been confined practically to the enforcement of the Rehabilitation Act. This act requires that certain information be filed with the Department of Labor between January 1 and January 15, with particular reference to the rehabilitation in industry of returned soldiers.

During the fiscal year stress was laid upon getting complete reports from the larger industries and conducting special investigations of possible cases of discrimination against returning service men. Through the various free employment offices, the inspectors of the Division of Factory Inspection and Chief Inspector of Private Employment Agencies and through the public press, it was possible to disseminate the information that there was a law on the statute books giving the Director of Labor considerable administrative powers. These powers are enumerated in the law as follows:

§ 2. The Director of Labor is hereby authorized and directed to investigate the matter of reemployment of soldiers and sailors honorably discharged from the military or naval service of the United States, in order to bring about and to promote their speedy restoration to the industrial status formerly occupied by them. To that end he shall make use of all available information disclosed by records and statistics of his office, and he shall wherever and whenever possible and practicable advise with, and mediate between, employers and such discharged soldiers and sailors and he shall cooperate with patriotic organizations in efforts to bring about a prompt rehabilitation in industry of such discharged soldiers and sailors; he shall from time to time make such recommendations to employers as shall be deemed fit and reasonable in order to advance and promote such replacements in industry as shall be most advantageous to soldiers and sailors discharged from the naval or military service of the United States.

Aside from the statistical information secured—information which is now being compiled and arranged for publication in July following the publication of this report, the specific information may be summarized as follows:

Employers are willing to report and to have special investigations made whenever necessary.

Approximately a half dozen objections have been made by as many employers—these mainly variants of, "It's another report to make out."

Investigation of special investigators on routine work showed that employers were filling out the required blanks carefully and accurately when asked to do so.

Investigations by special investigators detailed to cover special alleged violations showed that there were three specific classes of alleged violations, those resulting from, (1) abolished positions, leaving no work of the kind; (2) division of work into two or more jobs—usually with increase of work and decrease of salary; (3) replacement by women workers.

Cases of out-and-out, deliberate refusal were small in number—in notable instances this was evidently due to the enactment and enforcement of the law.

Employers' associations have cooperated with the department in advising their members when and how to report.

DIVISION OF STATE SUPERINTENDENT OF FREE EMPLOYMENT OFFICES

W. C. LEWMAN, *State Superintendent*

The principal events in the work of supervision of the various free employment offices of the State have been set down by the Division of Advisory Board, pages 137 to 145, of this report. The intimate and cordial relations which existed—and now exist—between the supervisor, advisors and executive officers makes a report by one embody the opinions of all.

DIVISION OF CHICAGO FREE EMPLOYMENT OFFICES

CHARLES J. BOYD, *General Superintendent*

It is with satisfaction that we review the events and accomplishments of the last year. The progress of the Chicago Free Employment Offices has been remarkable when the employment conditions of the past year are considered.

It must be remembered that the rush of war time was over. The reconstruction period was at hand. All enterprises were endeavoring to regain the staid position of steady production that had been so ruthlessly interrupted by the great World War. Many plants had to be transformed for peace-time production. Many lines of material had been exhausted. Thousands of workers left this country, rendering many industries incapable of great productive effort. Yet, in the face of these great obstacles, the Chicago Free Employment Offices went forward and established a placement record for men and women that has been most gratifying.

Anticipating the discontinuance of the U. S. Employment Service, which was cooperating with the Illinois Free Employment Offices, from the field of placement work, and the closing of many offices in this city and State, as well as reducing the number of employees in our central office, the legislature, upon recommendation of His Excellency, Governor Frank O. Lowden, appropriated funds to increase the number of employees in the Chicago office from 34 to 52. It is regrettable to say, however, that the appropriations made for the individual and collective positions were not sufficient to attract or retain capable men and women in this service, and hence, there remains an unexpended balance in the salaries and wages account in the Chicago office, for the fiscal year ending June 30, 1920, of \$12,824, and during the same period the turnover was enormous. This, in itself, was a great handicap, as most of the old employees must necessarily be transferred and shifted to take care of the work of the various departments of this office which are necessitated by the demands of our patrons. It is pleasing to remember that the veteran employees of this office responded so capably to the demands made upon them, and so willingly assisted the management in the training and development of the many new employees. No efficient organization can successfully exist, however, with a turnover as great as has been experienced in this office.

Each day is proving to the public the need and worth of the free employment service in this city and State. The increasing population

and the varying conditions in the different plants and industries of this city, render it impossible for the unemployed to know the avenues open for employment. Our service is each day becoming more and more a common meeting ground of opportunity and applicant. The centralization of employment opportunities in one office is of great benefit to all because of the time saved. The time lost by the unemployed in seeking employment amounts to hours, and represents a loss to the worker and the employer in dollars and cents that cannot be measured.

Hundreds of applicants are applying to this service each year who are uncertain as to the class of employment they desire and for which they are fitted. Our experienced placement men and women are rendering a valuable service to the public, in the counsel and vocational advice they are each day giving this class of applicants. There are increasing numbers of men and women today, who, because of the wages offered in many lines of employment, are becoming dissatisfied with their own work and are coming to this office seeking a change of position. These persons are advised and directed for their best interest. This is a service of inestimable value to the whole public at a time when there is such a condition of unrest and indecision.

More experienced placement men are greatly needed by this service. Our patronage, like that of all organizations, depends entirely upon the service rendered. The salaries, as authorized by the last General Assembly, are not in keeping with the living conditions of today, and we are unable to attract or to retain men of the ability required for satisfactory placement work. Placement men should possess a wide acquaintance with the requirements of the trades or occupations of the section in which they are directing men to employment. They should be constant students of employment conditions, interested in the work, and paid a salary that will free them from the necessity of accepting after-hour employment. When it is realized that we, today, are supplying more than three-fourths of the demands made upon this office by the employers, a better understanding of the needs of this service will be had. Every effort should be made to induce the next legislature to increase its appropriations so that we may meet the competition of private employers who are constantly bidding for men and women of the ability required for this service.

The unrest and dissatisfaction now permeating all classes of labor, together with constantly increasing wages, are a part of the difficulties this office is experiencing in inducing men and women to accept steady employment. Conditions have created a new class that may be termed "shoppers" for employment. They are daily increasing in numbers and becoming more and more unreliable in accepting work.

An interesting work that is constantly being done in this office is the placement of the highly trained technical and unusually qualified class of men who are applying here. When opportunity is lacking, we

make use of a special letter, outlining the qualifications of these applicants directed to the organizations of the city which our long experience has taught us have frequent need of men of the applicants' experience and training. As a result, we are today placing men in high paid positions who would otherwise be compelled to patronize private employment agencies and pay extortionate fees for service we are giving free. Another consequence of our letters of inquiry is the acquaintance we gain with the managers of big business, and their realization that we are able to furnish not only common labor and skilled workers, but also to supply any executive or trained workers they may need.

Patrons of this office in need of specialized workers are permitted to advertise in the columns of the daily papers for same, to be met at this office at certain hours and interviewed by employers' representatives. This privilege, affords our office some publicity and induces many new applicants to visit this office who would not otherwise do so. All applicants in answer to such advertising, if not accepted by employers' representatives, or in the event conditions are not satisfactory to the applicant, are directed to a department in this service handling the line of work in which they are interested. Our placement clerks then not only offer them such opportunities as are open, but also make every effort to secure them satisfactory employment. Another feature of this special privilege is that it induces a higher class of applicants to apply. One of the great needs of this service is an advertising fund which might be used for the benefit of many applicants for whom we have trouble in finding employment and of whose services many employers are in need. While this service has been in active operation for more than twenty years, we find that in this great city there are large numbers of employers, and thousands of unemployed, who do not know of the service and the many opportunities it offers its patrons. Publicity is needed that all may have the benefit of our experience and interested effort in the betterment of employment conditions.

Our handicap department, which is in charge of a most capable man, is doing an exceptionally interesting and needed work in the placement of the physically handicapped applying at this office in increasing numbers, as the results of our efforts becoming more widely known among the many organizations concerned in this problem. In this connection, it would probably be interesting to know that we are furnishing office quarters to the Survey Officer of the State Department of Public Welfare, who is making a survey of existing conditions with reference to the rehabilitation of the physically handicapped persons of this State. The cooperation is very close and mutual service is being rendered. Our department is receiving much aid and information regarding the avenues for employment that are constantly opening to the handicapped worker. Many interesting cases have been handled by this department and the obstacles which seemed to have obstructed the pathway of progress

have been surmounted, the gloom that has faded the cheek and dulled the heart of the handicapped applicant has been dispelled forever and society has been benefited. By placing in permanent employment these physically handicapped, we have, no doubt, not only assisted them to help themselves, but have brought joy and comfort to family and friends interested in them.

The farm department has experienced a wonderful year, meeting the demands in a very creditable manner. Men have been directed, not only to the dairy, grain and stock farms of tributary territories, but hundreds have been sent to the harvest fields of the West. An increasing number of high school boys seeking vacation employment, have been placed where they are rendering valuable service.

The work of our common labor branch is steadily increasing. Our office, at various times, has been kept open beyond the usual hours to meet the demands of the employers for immediate help. As a result of the war, the ranks of common and casual labor have been much augmented, and today larger numbers than ever are applying for work. This common labor branch affords larger opportunities to the employers of the city to secure gangs of men numbering from a few to a hundred or more, to meet the calls exigent to their daily work.

This service has been extended by the opening of a new branch office at 344 East Thirty-fifth Street, which is the center of the thickly populated colored district. This office is in charge of a most capable superintendent, and is rendering a great service to the employers, and applicants living in that section are greatly benefited by the opening of this branch office.

There has also existed marked progress in the activities of the Women's and Girls' Department whose placements cover a wide variety of occupations and trades. Owing to the many calls for industrial workers, and the unusual conditions of the present time, it has been impossible to supply the demands for help. The factory and domestic situations have been the most difficult to cope with, notwithstanding the high wages that have been offered. On account of this scarcity, the day-worker has supplanted in many homes, the housemaid, and is receiving a wage equivalent to some of the high grade positions.

We also note with satisfaction, the increased number of clerical workers placed, which has averaged one-ninth of the total placements.

DIVISION OF EAST ST. LOUIS FREE EMPLOYMENT OFFICE

STEWART CAMPBELL, *Superintendent*

A free employment office is primarily intended to occupy a position midway between the employer on the one hand and the employee on the other. It should acquaint itself thoroughly with the employing public in the territory which it serves and know the wants of each unit of that public so that when an application for employment is received the qualifications of the applicant can at once be determined with reference to the unfilled position.

This office has earnestly striven to follow this very simple principle in its work for the two divisions of the public as thus indicated, and has devoted its activity in the first instance to a thorough acquaintance with all employers, both individual and corporate, within its field of action. Exact information was obtained daily of an actual or possible vacancy, in so far as this was possible, the kind of person needed to fill it, and the minimum of experience required. It was then a very easy matter to place any applicant suited to the requirements of the job, or if no application of the kind suitable was on file, then the proper party was looked for, and rarely did the office fail to meet this test of its efficiency.

We have found the public very willing to assist us in every way, and we have noted with much pleasure the growing popularity of our work. The general attitude of the employing public has been one of increasing dependence on the office for help in finding suitable employees. The man or woman out of work has been correspondingly responsive to our efforts in his or her behalf. We regard this as a confirmation of the wisdom of the State administration in founding and supporting such a medium of helpful aid to capital of whatever degree, as also to labor, either as individuals or as groups.

The conditions in the industrial situation in the particular section of country served by this office have not differed materially from those in other parts of the country since the signing of the Armistice. There was at once a decided change in the situation, the employer no longer seeking labor and willing to accept whatever offered, to the opposite condition, gradually increasing in its intensity, in which the labor sought the employer and was less critical regarding the conditions of the job and the rate of pay. This fact has been more apparent as the time of stress receded into the past and normal conditions became steadily and increasingly operative. The peak of unemployment, or of the shifting of labor, we believe has been reached and passed so that the future holds out much of promise to both employer and employee.

But it is in the matter of farm help, both as to the proper kind and in sufficient numbers, that we have found our greatest difficulty. During

the continuance of the war the tendency of this class of labor was to seek other lines of work because of the greatly increased rate of pay, thus leaving farmers short-handed and absolutely unable to compete with manufacturing and other related lines of work because of the high wage scale. When the return tide of labor to that neglected line of industry came, the workers were very naturally unwilling to accept a wage that would correspond to the conditions governing the farmer, with the prices of all his products steadily and rapidly decreasing. But in this locality, as we believe is the case in all other strictly farming sections of our country, we are pleased to note evidences of a quick return to the conditions agreeing with normal farm prices.

The office has been able to keep itself abreast of the sudden and rather violent changes employees were inclined to make in the constant effort to secure a higher wage at some other place or in some other line where the conditions in that, as in other respects, seemed to attract their changing fancy. By a constant study of the needs of the position and of the capabilities of the particular employee, we were often enabled to better both parties to the change. But it has been our aim to discourage the tendency of many applicants to give way to a poorly considered desire for a change, and by suggestion and friendly advice, we sought to train them to develop more stability of effort which would prove, in the end, far more advantageous to them than any wayward fancy might promise.

The records of the office present the following data of the work for the fiscal year:

(1) Applications received from employers.....	10,201
(2) Number of employees asked for.....	15,404
(3) New registrations of employees.....	6,935
(4) Renewals of applications.....	6,764
(5) Persons referred to positions.....	13,019
(6) Positions filled	12,051

A comparison of the above figures with those submitted in reports for the two years preceding shows that there has been a satisfactory increase in the number of employers asking the aid of the division office. There has been likewise an increasing number of registrations on the part of employees, both of these facts inclining us to the justifiable belief that the office is fulfilling the purpose of its creation and continuance. This is further evidenced by the increase in the number of renewals of applications, indicating the satisfaction of former patrons of the office with its work in their behalf.

We are very glad to acknowledge the cordial cooperation with this office of the local press throughout the territory served by it. Its success would have been much restricted had it not been for the publicity so freely bestowed by our friends of the press, and we are not unmindful of this valuable aid, making grateful acknowledgment of all favors. We have also been aided very materially by many personal friends outside of the office, as well as by those who felt a friendly interest in its work, and to these we are duly grateful.

DIVISION OF PEORIA FREE EMPLOYMENT OFFICE

THOMAS METTS, *Superintendent*

The third annual report of the Peoria Free Employment Office, division of the Department of Labor, is hereby submitted, showing the results accomplished by this branch for the year beginning July 1, 1919 and ending June 30, 1920.

During the past year we have taken great pains with each individual applicant, both male and female, in interviewing them and ascertaining their ability and their fitness for the work they desired to engage in, and by so doing we were able to satisfy the employers, thereby securing them as permanent patrons of our local office. During the past year we have received numerous tributes and many thanks from the community for the competent help furnished them which would prove that our efforts have been to some avail and have also been appreciated by the public.

The men's department has supplied help during the year to the number of 7,033 persons, the work including a great number of occupations, although a large majority of the positions filled were for some kind of labor requiring little manual skill.

The women's department is doing a valuable work and the demand for female help is constantly increasing. The majority of our female applicants are married women who prefer to work only a part of the day.

Below we have listed the statistical showing of this office for the year ending June 30, 1920.

	Male.	Female.	Both.
Applications from employers.....	4,813	8,042	12,855
Persons asked for by employers.....	11,030	8,115	19,145
New registrations	2,016	205	2,221
Renewals	5,346	7,746	13,092
Persons referred to positions.....	7,199	7,919	15,118
Positions filled	7,033	7,853	14,886

Quite a number of farm hands have been supplied during the past year to farmers of this locality, which would show that the benefits of this office extend to the country as well as to the city. However, farm help has not been as plentiful this year as heretofore but we attribute that to the fact that men can earn more money in the city as the farmers have been slow and reluctant about increasing wages.

A few minor strikes have occurred since the time of our last report but this office was not in any way affected by said disturbance as we did not interfere in any way and remained neutral to all concerned. However, at this writing Peoria is free from all strikes.

A vote of thanks is due the newspapers for their generosity in publishing our reports from time to time, thereby bringing before the eyes of the public the work this office is doing and undoubtedly much of our success is due to this advertising. An appropriation for advertising, however small, would be of material aid.

A survey of the work of this office discloses the fact that we have had a fair share of the prosperity which is universal throughout the country.

DIVISION OF ROCKFORD FREE EMPLOYMENT OFFICE

PETER T. ANDERSON, *Superintendent*

During the fiscal year 1919-1920 it has been necessary to contend with many things never met before in the history of the service. Shortage of help, and the uncertain ways of a great many applying for work, which can be laid to only one thing, unrest or a mania to keep moving, were the greatest difficulties.

The wage question was paramount. If the applicant had a limited experience or no experience at all he invariably demanded the wage limit, or he would refuse the job. There were plenty of positions for those that really wanted work. A great many sent out never went to the places to which they were directed. A great many that did go to the jobs assigned, remained on the job only long enough to get a few dollars ahead and then quit. They would return to this office and ask if we had anything better to give them, and a great many very good opportunities doubtless were lost to those who failed to keep the many good positions offered.

From July 1, 1919, to the time of this report factories were very seriously handicapped for help, especially machine shop and furniture plants. Most of the demand was for skilled help. The shortage was not confined to Rockford or Winnebago County, but extended to Boone, DeKalb, Lee and Stephenson Counties. The demand for machinists, toolmakers and machine operators, cabinet makers on furniture and phonograph work and all kinds of finishing work in the furniture and piano lines was very intense.

During the month of October, 1919, building construction work began to increase. The result was a shortage of bricklayers, carpenters, sheet metal workers and construction labor. Contractors offered \$1.25 per hour for bricklayers and 75 cents to 90 cents per hour for sheet metal workers. Construction labor was paid 60 cents to 75 cents per hour. This necessarily forced wages ahead of the scale paid at that time. We were fortunate in receiving help from Rock Island, Bloomington, Aurora and Joliet offices, of the Illinois Free Employment Service. Quite a large number of laborers came here from Janesville, Wisconsin, and most of them have remained. The labor shortage curtailed the work of this division. From April 10, 1919, up to June 30, 1920, the shortage fluctuated between 520 and 928 per day, and this estimate does not include outside division orders, running from 150 to 300 more per day. A great many positions open were for mechanics of the higher order, and

the rate of wages offered was in line with the degree of knowledge and skill possessed by the workmen.

The best advertisement for this office and the service, is the selection of the right man for the right job. It is impossible to do this sometimes, but we make an effort to conduct the employment service on a sound business basis so as to bring about proper placements.

The activities and work done by this office are herewith attached in tabulation form and placements shown in the following lines of work:

MALE DEPARTMENT

Agricultural work	517
Boys	96
Building and construction.....	392
Chemical workers	5
Clerical workers	208
Textile	5
Domestic	140
Food products	15
Leather workers	6
Metal and machinery.....	1,242
Printing	6
Professional	11
Transportation	207
Wholesale and trade.....	29
Woodworking and furniture.....	327
Miscellaneous	192
Common labor	3,012
Casual workers	1,238
Total	7,648

FEMALE DEPARTMENT

During the month of January, 1920, the records show more females placed than males. This is exceptional, as all other monthly reports show a preponderance of male placements.

Applications for female help have undergone a radical change. Very few applicants desire work in private homes. This has made it impossible to meet the demand upon this office for this class of help. Most of the applicants applying for work want work in factories or laundries. A great many are sent out as machine operators. There has been a good demand for stenographers and typists. At present, normal conditions prevail in this line. At one time the greatest demand was for telephone operators. The local telephone office was in bad condition, owing to help leaving. The cause leading up to this was inadequate wages as compared with the high rate of wages paid by others in this locality to female help. At present, we have no trouble in placing women in this department. Instead of waiting for them to come in, we go out after them by telephone to try to satisfy the demands. We have a large demand for work from girls between the age of 14 and 16, but it is hard to place girls of that age.

The activities of the Female Department of this division are herewith presented in tabulated form:

	Employers.	Number asked for.	Regis- trations.	Renewals.	Referred.	Filled.
Clerical.....	457	598	794	113	406	355
Domestic.....	874	928	296	73	315	283
Factory and laundry.....	500	1,098	557	130	636	574
Hotel and restaurant.....	282	424	184	33	165	143
Casual.....	4,838	5,715	3,076	1,534	4,452	4,233
Telephone operators.....	7	118	34	2	33	33
Total.....	6,958	8,881	4,943	1,885	6,007	5,621

Total placements of Male and Female Departments for year, 1919-1920, 13,269.

FARM HELP

The situation since demobilization of the service men has been greatly relieved and this last year has been nearly normal or on a pre-war basis.

During the months of March and April, 1920, we had a slight shortage. There was not a shortage of farm hands, but because of wages and living conditions, applicants refused to accept work, and of those sent out not more than one-third stayed on the jobs. One farmer was supplied with sixteen men, or an average of one per week for four months and at this writing the position is still open. The number of farm hands placed according to our records is 517 during the year. These men were distributed to the following counties: Boone, DeKalb, McHenry, Ogle, Stephenson and Winnebago in the State of Illinois. A few were sent to other states; namely Minnesota and Wisconsin.

The present wages quoted in this division are from \$60 to \$100 per month, depending upon ability to do farm work.

REGISTRATION AND REPLACEMENT OF SOLDIERS, SAILORS AND MARINES

This work was undertaken in this office with the utmost care, every effort being made to provide the best possible work for men discharged from the service of the United States Government, and all applicants that came to us were placed. Some of these men were placed as many as fifteen different times. We were in a position to place all that came, having quite a variety of positions open and this gave the applicant a chance to select the class of work he desired. Most of this help was very satisfactory and was so reported to us by plant employment managers. A great many of these applicants were from outside of Illinois as shown by the tabulated list given below. From July 21, 1919, to June 30, 1920, we have placed ex-service men from the following places:

From Rockford and vicinity.....	322
From Illinois, outside of Rockford.....	67
From California	3
From Canada	2
From Florida	1
From Indiana	3
From Iowa	5
From Minnesota	8
From Missouri	5

From Michigan	1
From Nebraska	4
From New York	2
From North Carolina	2
From Ohio	6
From Pennsylvania	1
From Tennessee	3
From Washington	1
From Washington, D. C.	1
From Wisconsin	28
Total	465

TURNOVER

Turnover has increased during the past year to a remarkable degree. It is a hard problem to solve, because it is hard to get at the root of it. The cause may be laid to a great number of things. In many instances the applicants may be to blame. The Free Employment offices exist for the good they can do to the employer and employee. We earnestly strive to get the right kind of help to fill the jobs listed. We want the applicants to stick and, provided they receive the proper compensation and the working conditions are all right, there is no valid reason for workmen to be continually changing places. All are entitled to living wages and in turn should give an honest day's work. Some plants or firm managers seem to lose sight of the fact that it is easy to hire but expensive to fire help. Every day a man or woman works in a shop, factory or store, he or she becomes more valuable—a greater asset to the firm. It takes valuable time to teach new employees. Every moment or hour spent in instruction costs money and is wasted energy and must be charged to loss. Employees should not be discharged without inquiry as to their fitness to fill other positions in the plant in which they are working. A good employment manager is a valuable asset to any firm, provided he uses good judgment in his selections for the different lines of work under his charge, and it stands to reason he will not only save his employer's money, but will also cut the turnover in his plant to a minimum.

PUBLICITY

The press of this locality is always ready and willing to publish anything that is desired by this office and the Illinois Free Employment Service in the Rockford district is to be congratulated in having such support, as it means much to the service and the State of Illinois. If the employment service were permitted to advertise its needs in the local press at least once a week, I think it would be a great help to the service, and the cost to the State would not be very much.

All positions open are tabulated on bulletins, but applicants cannot know what positions are open unless they call at the different offices of the employment service to find out. Several times during the last year, in an effort to relieve the labor shortage, these bulletins were sent to all postmasters in eight counties in northern Illinois, with the request that they place the bulletins in conspicuous places. We had fairly good

results from this. If we had some system of advertising positions more generally, I think it would prove of great value to the employment service of the State of Illinois.

PROBLEMS OF YOUNG MEN WITHOUT TRADES OR PROFESSIONS

A large number of bright young men come into this office with no trade or occupation of any kind, and it seems at times an impossible task to place them. They do not want to work for small wages. Apparently, they forget that the child learns to crawl before he can walk. They do not stop to think that it costs money to teach them. We tell them we can send them to places where they can learn something worth while and after a course of training for about six weeks, they can make good money, but this does not appeal to a great many.

Some months ago two young men with no previous experience were sent from this office to a local plant to learn the molding trade. After a period of two months work, the superintendent of employment told me these young men were each averaging \$12 per day working on piece work. Opportunities of this kind are open every day, waiting for the young men to accept and the unskilled young man of today may become the skilled mechanic of tomorrow.

Often a young man who has served perhaps six or eight months in training considers himself a first class mechanic. He may be, but it is doubtful. Only in special lines of work can he become proficient in that period of time. Some have not specialized in any particular line, therefore, they are not experienced in any occupation. If a system of apprenticeship were worked out and young men started on the right path to learn machine shop work from A to Z, a reasonable time being fixed to provide a knowledge of all essentials necessary to make a first class machinist and a certificate provided at the end of the apprenticeship, it would be beneficial. It is not just to the old mechanic and the man who has given years of the best part of his life to learn his trade and become proficient in his work to allow an inexperienced young man the same rate of pay. Experience is essential in all lines of work.

This applies also to the farm. The young man of today does not think experience required on the farm. The answer to the question, "How much experience have you had on a farm?" time and time again has been "I have lived on a farm all my life." That may be so, but nevertheless it does not indicate anything. It does not make a man a farmer or a good farm hand.

It is a great problem to know what to do with inexperienced young men who enter the offices of the employment service.

DIVISION OF ROCK ISLAND-MOLINE FREE EMPLOYMENT OFFICE

FRED W. RINCK, *Superintendent*

The unusual labor conditions that existed during the war, passed on the signing of the Armistice. The effect was felt almost immediately in this office. There was much less demand for labor, particularly for construction work, and consequently our report for the year shows a decrease in placements of about two thousand from our last report.

Of the 57,460 men and women placed through this office in the past three years from July 1, 1917, to July 1, 1920, a large number have been skilled workers and the more skilled and experienced they were, the easier it was to place them. This office has calls daily from the larger manufacturing and mercantile establishments, contractors, builders, etc., in this section for skilled mechanics, laborers, clerks, bookkeepers, cashiers, stenographers, sales people and hotel and restaurant workers.

Our greatest task is to place satisfactorily a man who has, during the rush of war work, done for a short time some particular kind of shop labor—run a lathe or a drill press, or a machine of some kind on some one or two articles. He comes to us and represents himself as a skilled workman. The foreman to whom he is sent, however, soon finds that he has only a smattering knowledge of the work and the price the company is able to pay for his services is only slightly more than that for common labor.

We have calls on file nearly all the time for capable young men to learn some skilled occupation with the sure promise of advancement as they become competent to do the work. We have several calls from stores and business houses for young men to enter their employ and learn the business with the promise that they will be promoted as fast as they master the details. Our experience has proven that success in such cases depends on one-third natural ability and two-thirds hard work, and the average young man is not willing to stand the test.

The idea also prevails that the Free Employment Offices are mostly visited by so-called floaters, that is, a class of laborers who are drifting about, the flotsam and jetsam of labor. This in a measure is true, from the fact that during the great war activities there were extra inducements offered for laborers for certain kinds of war work and a great many men took advantage of this to leave their regular occupations and try some new place and new occupation, partly from a love of adventure but mostly from the lure of the extra wages offered. It is not true, how-

ever, that this is by any means the character of the great majority of men who pass through our offices. Those in charge endeavor to classify carefully each applicant and assign him to a position that we feel he is capable of filling, so that his placement will be mutually advantageous, both to himself and to the employer, and it gives us great satisfaction when we are assured that we have succeeded in our effort.

PLACEMENT OF SERVICE MEN

Ever since the Armistice was declared, under the direction of Barney Cohen, director of the Illinois Department of Labor, this office has interested itself in behalf of the boys who served in the World War, and the result has been that 1,954 soldiers and sailors have been placed in good positions, and more than 7,500 letters have been mailed out to returned boys, offering our services and also advising them that this office has communicated with their former employers and that the positions they held before going into the service were open for them. In hundreds of cases we have been notified by the employers that better jobs were open if the men desired to return. And we wish to state that our interest in the welfare of the soldiers and sailors has not abated and whenever this office has a position a soldier or sailor can fill, we have given him the preference. The office has received a large number of letters of appreciation from the men for this service.

PLACEMENT OF FARM HELP

The Rock Island-Moline Illinois Free Employment Office has co-operated with the County Farm Advisors of Rock Island, Mercer, Henry and Whiteside Counties in supplying the farmers of these and other counties with needed farm help. In one year 511 men were placed on farms in this district. That our services were fairly successful is evidenced by the following letter received from P. R. Edgerton, County Farm Advisor of Rock Island County:

Fred W. Rinck, Manager, Illinois Free Employment Office, Rock Island, Illinois.

MY DEAR SIR: I wish to take this opportunity of expressing my appreciation of the splendid way in which you have cooperated with our Farm Bureau in securing farm help. You have certainly done a hard job well. I hope our relations will continue in the future as satisfactorily as in the past.

Very truly yours,

(Signed) P. R. EDGERTON, *County Farm Advisor.*

SUPPLYING FEMALE HELP

There are not many factories in this territory using a large number of female workers. We are perhaps, somewhat behind other cities of the State in this respect. Notwithstanding this, this office has supplied to local manufacturers in the past year or two quite a large number of female workers.

The United States Government opened a sales store here last winter for the sale of surplus army stock, and we supplied the entire force of

saleswomen without any effort. Quite recently, also, a large firm opened a factory here for the manufacture of sporting goods. We were able in a very short time to supply them with a full force of help. When a new industry is contemplating coming to this vicinity, naturally the labor condition is one of the important considerations. Only a few days ago, a large concern, manufacturer of a certain article of ladies' wearing apparel, looked the cities over in the view of locating here. The heads of the firm, together with the representative of the Chamber of Commerce, called at this office to learn what would be the prospect of securing women workers for the factory and we informed them there would be no difficulty whatever in securing all the female help they could use.

Some department manufacturers are using more and more female help. This is particularly true of the coremaking departments of our large industrial firms. Some of them are using female workers altogether in the core department, and female help is also replacing male help to some considerable extent in other lines of work.

We have at all times a constant and steady call for female help for office and domestic work.

PUBLICITY

In making appropriations for expense of the labor office the legislature did not provide for any publicity work. We would suggest that a reasonable appropriation should be made available for this line of work for the office. Some of our firms, when in need of a large number have asked us to make a special drive to secure them, and at their own expense paid for newspaper advertising. If the office had a reasonable sum for newspaper advertising and transportation expenses for the officers, we think it would be money well expended.

POSITIONS FILLED FROM JULY 1, 1919, TO JUNE 30, 1920

The impression is current that the placement of common day labor is the principal business of the Illinois Free Employment Office. This is not true.

A man came into the Rock Island-Moline office, who was a highly skilled office expert—what is known as a cost-man. Although we had no call on file for such a man, we placed him in less than an hour at a salary of \$200 per month. Later, an experienced draughtsman came in and still later two experienced tool designers. All three of these men were placed immediately at salaries of \$175 to \$225 per month. A glance over the list of positions filled during the period named above will show almost every known occupation represented. We have succeeded in placing male applicants in positions above the grade of common labor and there have been very few requests for help in highly skilled or technical positions which we have not been able to fill.

PLACEMENTS

MALE

Laborers	8,311
Factory and foundry hands.....	1,656
Accountants, cashiers, clerks, etc.....	126
Auto mechanics, assemblers, etc.....	147
Blacksmiths, boiler and bolt makers.....	52
Brick layers, carpenters, painters, plumbers, electricians, steamfitters, etc.	288
Drill and lathe, machine hands, etc.....	641
Draughtsmen	32
Farmers, dairy hands and gardeners.....	511
Harness and leather workers.....	29
Hotel and restaurant workers.....	350
Molders and core makers.....	104
Millwrights	40
	<hr/>
	12,287
Others, not classified.....	1,830
	<hr/>
Total male placements.....	14,117

FEMALE

Cooks, domestics, etc.....	1,178
Cashiers	9
Clerks	120
Factory workers	249
Bookkeepers	6
Office workers	11
Stenographers	89
Typists	48
	<hr/>
	1,711
Others, not classified.....	707
	<hr/>
Total female placements.....	2,418
Total male placements.....	14,117
	<hr/>

Grand total (male and female)..... 16,535

Our record also shows that during the period July 1, 1919, to June 30, 1920, more than 1,400 individuals, firms and corporations were supplied with skilled and unskilled labor. This labor represents 148 different trades and occupations.

DIVISION OF SPRINGFIELD FREE EMPLOYMENT OFFICE

LUTHER O. GERMAN, *Superintendent*

The fiscal year just closed was probably the most crucial in the history of this country, in regard to labor employment and production. This situation was reflected in this locality. Not only was there a shortage of labor, but there existed a restlessness and discontent among the workers, coupled with the inability of manufacturers to obtain material. The Illinois Free Employment Office took a prominent part in alleviating this condition, proving a welcome agency in bringing the employer and employee together for their mutual benefit.

The public in general is becoming cognizant of the opportunities offered by the Free Employment Service, which accounts for the large number of new patrons. New patrons are always desirable and every effort is made to obtain what the new applicant desires, as successful handling of the first order lays the foundation for confidence in the service. It is not always possible, however, to fulfill requests, but in this event, the application is not pigeon-holed, but filed and notice is sent of the first opening.

COURTESY AND POLICY

Our motto is courtesy and an interest in the wants of both the employer and employee. The policy of this office is to give to every one fair and impartial treatment and to inquire into the ability of the applicants in order that they may be placed in the positions for which they are best fitted. Many stories of human interest come to the attention of the placement clerk, bringing him closer to the trend of the times.

We also cooperate at all times with the Overseer of the Poor, who refers to this office many persons seeking help from the county. In many instances employment is secured for them which affords relief and at the same time saves the county money.

The high cost of living is one of the big factors in the general unrest in the labor market. While we realize that living costs are extraordinary, the constant change in labor from one place to another not only tends to demoralize the market but boosts the price of the necessities of life. In consequence, we earnestly strive to place our applicants in positions that will be satisfactory and permanent and in this way eliminate turnovers, which are a detriment both to the manufacturer and laborer.

HARD ROAD WORK AND COMMON LABOR

The hard road work was late in getting started this season, due to inability of contractors to get delivery of material. In the latter part of May several large firms began operations, offering 50 cents an hour for labor. In the meantime, a number of laborers who contemplated working on the hard roads had secured employment in other branches of industry, which, coupled with the increase for board in the road camps from \$1.00 to \$1.50 per day, caused a big shortage in hard road labor. In the road work near Springfield this latter condition was relieved by the contractors providing trucks to convey the men to and from work, thus enabling those who lived in the city to board at home. However, contractors whose work was too far from the city to make this practicable were sorely pressed for help. This situation was really acute because of the fact that the material must be kept moving so as to cause no cancellation of orders.

Common laborers are being paid from 50 to 60 cents an hour and, in a few instances, more. This is a substantial raise over last year. A reduction in the placement of common laborers is shown in this year's report on account of the strike of the building laborers during April and part of May this year. This strike brought all building to a standstill for a time.

SKILLED WORKERS

We have been very fortunate in placing skilled workers as there has been a great demand for them during the year. In fact, practically every skilled worker was placed. In several instances we secured skilled help for manufacturers when it seemed that none was available.

We were able to be of great help to the farmers in securing men for their spring work, which was seriously delayed by the weather. Farmers paid single farmhands \$50 per month with board, while married men received \$50 to \$65 per month with house, cow, garden spot and usually other minor inducements.

In June, the closing month of this report, the farmers sent out an S. O. S. call for help during the harvest. They offered 50 and 60 cents an hour, together with board. In most instances the farmers came to the office and furnished transportation. During this month 59 calls were received for farm help and out of 79 men referred, 64 were hired. This report covers only two or three days of the harvest season, however, as the wheat is not harvested until the first two weeks in July.

SOLDIERS' PLACEMENTS

With the closing of this fiscal period, comes the discontinuance of the Soldiers' and Sailors' Branch of the United States Department of Labor. Since the signing of the Armistice, this office has earnestly endeavored to place all returning service men and we take this opportunity of thanking the employers for their hearty cooperation in this matter.

FEMALE SECTION

The war was the beginning of a new era for female workers, especially in factory work. The demand was so great that wages for this line of work practically have doubled and still there seems to be no slackening up. Some factories in this vicinity now have standing orders for women workers. Wages paid female workers range from \$1.50 per day up in the factories. Office and clerical positions pay considerably more for the experienced workers, but the wages for the general run of office help are lower than those paid factory workers.

Mention should also be made of the trouble experienced in securing domestic and day laborers for housewives. Although wages for domestics have doubled since 1914, the higher wages offered by industrial concerns have attracted to these lines a large percentage of the women workers. While wages for houseworkers range from \$7.00 to \$14.00 a week with room and board, it is very difficult to get any help of this class.

The public is becoming more familiar with the opportunities offered by the women's department. This is evidenced by the fact that 244 more requests were made to this department this year than last and that 221 more positions were filled.

PUBLICITY

In conclusion, a word of appreciation is due the Illinois State Journal and Illinois State Register for their whole-hearted cooperation. Both papers have been very generous in the amount of publicity given to the division, and have thereby been of great assistance.

GENERAL SUMMARY

The following is a general summary of the work of this office for the year:

Orders from employers.....	5,805
Persons asked for by employers.....	7,716
Number of persons applying for work.....	7,620
Number of persons referred to positions.....	7,064
Number of persons hired.....	5,891

DIVISION OF DECATUR FREE EMPLOYMENT OFFICE

DAN DINNEEN, *Superintendent*

During the past year, the first this office has been in operation, we have had to contend with the difficulties common to most new offices: first, the feeling among many employers and the general public as well that the office was simply a clearing house for "floaters" and unskilled labor, and next, that a fee was charged for the service.

It has taken time and constant effort to overcome this, but the growth and range of the activities of the office indicate this feeling has been entirely eliminated and the free employment office is generally considered a valuable and necessary agency in our civic and industrial affairs.

Food production is still a serious problem and one of the most important activities of this office has been securing help for the farmers. During the past year we have placed 264 farm hands in this vicinity.

Through the cooperation of the Social Service Bureau, Day Nursery, County Overseer and other welfare agencies, we have been able to secure work for many worthy people and also, in many cases, have prevented these agencies from being imposed upon by unworthy persons.

The women's department is constantly increasing its field of service and we are now placing girls and women in all classes of work.

Decatur has been comparatively free from labor troubles and the general industrial situation here is very satisfactory.

Whatever benefit this office has been to the city of Decatur is largely due to the splendid support we have received from the daily press, which has done much to eliminate the prejudice among many employers against the free employment service. In this connection, I would suggest that a small fund for advertising purposes properly expended would greatly enhance the value of the service.

DIVISION OF DANVILLE FREE EMPLOYMENT OFFICE

W. J. PAYNE, *Superintendent*

The Danville Free Employment Office came under State jurisdiction June 1, 1919. Prior to that time it was under Federal supervision. At the very beginning of the period, it was difficult to supply enough workers for the various industries of the city and locality—a condition similar to that obtaining throughout the State and Nation. Among the greater demands were calls for machine workers—particularly those having a high grade of skill, while the demand for farm workers and domestics was greater even than ordinary.

One of the unusual conditions noted by this office during the period this report covers is the tendency on the part of the worker to “change jobs.” Usually the applicant is interested in the probable time he may be employed, as he does not ordinarily look with favor on a short term job. Not until some record is kept, however, is it possible to realize the great number of changes which took place, so long as there was an opportunity to get work of a similar character at as good pay, elsewhere. The records on turnover during the war and the after-the-war period will surely be of great value as showing the migratory tendency of a certain grade of workers.

This office, has, it is felt, maintained satisfactory relations with its clients. There has been considerable constructive work done in building up the industries of Danville, and the business men have been ready to show their appreciation at all times and in many appreciated ways.

DIVISION OF AURORA FREE EMPLOYMENT OFFICE

FRANK RADUENZ, *Superintendent*

This office is a new one established by the State in a city of less than 50,000 population and has been in existence for ten months during the past fiscal year, from September 1, 1919, to June 30, 1920. During this short period it has come in touch with workers or employees in almost every work shop and in many homes in the city, and farms in this district. The service of the office is regarded as a public necessity. Large employers, such as manufacturers, cooperate in securing their labor. The housewife in need of someone for a casual labor job or for a competent maid or a small nurse girl, telephones to the employment office for help. The store, hotel, restaurant, street car and railroad companies, call for help by letter, by telephone or in person.

Many kinds of work are seasonal and temporary. Workers unable to qualify satisfactorily at one kind of work are often good at another kind. No matter how well society may be regulated there must of necessity be some unemployed. But the problem of unemployment is one that cannot be disposed of by ignoring it. A State employment office should function primarily to fit the unemployed into jobs requiring help. The unrest among workers following the World War imposed an additional duty upon public employment offices. An effort had to be made to stabilize labor for its own good and assist in minimizing the large turnover. This can be accomplished by encouraging applicants who have jobs or positions to hold them. The employment office can be made, if properly conducted, one of the best preventives of unbalanced and radical agitation which has become apparent in certain localities of our great Nation. Each worker out of employment can almost invariably be directed to some work either permanent or temporary to meet his immediate physical needs.

GENERAL TOTALS

During ten months, 2,929 calls for male help were received, asking for 5,492 workers; 6,438 male workers of all kinds registered; 4,893 were directed to employment and reports from either employers or employees were received of 3,499 placements. This was accomplished although the office quarters were moved to another section of the city during this period. While the office is desirably located it has second floor quarters due to high rents on first floor space. This handicap can easily be overcome if a large sign board is attached to the front of the building extending from the second floor out over the sidewalk.

INDUSTRIAL HELP

The leading industries in Aurora are metal shops. These were supplied with unskilled, skilled and semi-skilled workers. Among the workers directed to metal shops, placements were reported for 62 assemblers and benchmen; 33 machinists and tool and diemakers; 187 specialists or machine hands and 692 shop helpers. In addition firemen, watchmen, painters, janitors, riveters, pipefitters, molders, electricians, welders, sheet metal workers, coremakers, cranemen, blacksmiths and several boilermakers were also directed to the shops. The workers in greatest demand were good unskilled laborers. Greater efficiency by the employment office will be secured as workers become more stabilized following the tremendous labor upheavals, the breaking of smoothly running shop organization machinery and the unsettled mental attitude of the public caused by the World War. It is intended to intensify the present splendid cooperation with employers for increasing the efficiency of the office and aiding in restoring a normal labor condition satisfactory to employer and employee.

Local employers are given first consideration. Men are directed to foreign employers only when they refuse all opportunities in this vicinity. The listing of opportunities available in other offices makes this possible. Workers from other cities have been received for Aurora in this manner as well.

WOMEN'S DEPARTMENT

Activity in the women's department has not been developed to the greatest possible extent. A total of 983 calls for female help were recorded requesting 1,198 workers; 1,142 registered for positions; 933 were directed and 647 placement reports were received. The greatest shortage of women workers was in the domestic and factory workers classes. Girls who had no experience but wanted office work greatly exceeded the demand. Some highly skilled and some specially trained women were directed. These included accountants, school teachers, comptometer operators, cooks for domestic and restaurant work, "farmerettes," skilled machine operators in metal shops, etc. Because of the shortage of steady housemaids many women were directed for washing, ironing and cleaning in homes, working by the hour.

BUILDING AND CONSTRUCTION LABOR

The office did not develop the directing of large numbers of workers for the building trades. Occasionally painters, carpenters, sheet metal workers and other building trade mechanics were directed. Of the miscellaneous calls for building trade laborers out of 308 directed, 240 were reported hired.

Of a thousand common laborers, not otherwise classified, called for at the employment office 765 were directed with 582 placements reported; 494 placements were reported for a large variety of casual jobs.

CLERICAL HELP

Applicants for clerical positions greatly exceeded the demand. Seventy-nine clerical workers were called for, 221 applications were received and 60 placements made in the male division. These consisted of office clerks, stenographers, bookkeepers, cashiers and accountants. Forty-two salesmen were placed through the office, ranging from grocery, shoe and dry goods clerks to canvassers and insurance solicitors and collectors. Five technical men, mechanical draughtsmen and surveyors, were placed.

FARM HANDS

The farm service is one of the important features of this office. The large farms in the immediate vicinity are principally of the corn, stock and grain variety and adjoin some of the most important dairy districts of the State. Over 900 single and married farm hands by the month, and harvest hands by the day, were directed, and the office received 623 reports of men hired. Some of the farm hands directed were employed by other farmers before reaching the place to which they were sent. Workers were directed to farmers in Kane, Kendall, DeKalb, DuPage and other adjoining counties.

Following the war when former farm hands and farmers' sons were crowding into the cities, this office was of great assistance to farmers who were facing an unprecedented labor shortage problem in their efforts to produce food and continue to operate their farms.

CROSS FILE SYSTEM OF APPLICANTS

This office installed a cross file system of cards on applicants who are not directed immediately when applying for work. If, for instance, an applicant is not immediately directed and is a lathe hand and an experienced farm hand and willing to accept either, there are two white cards made to that effect in addition to the application card. These cards are placed in the "live" file—one with that of machine hands and one with farm hands. If the proper opportunity arrives this applicant can be traced or found in these cross files. He is then directed by telephone or letter if it has been ascertained he is not already working somewhere.

These cross file cards, when the applicant secures a position, are properly filed into "dead" or inactive files, where they will not be disturbed until he again is out of work and again applies to be directed. The applications of both men and women in all occupations are filed in this manner.

SOLDIERS, SAILORS AND MARINES

When the Federal Employment Service was discontinued for want of funds there remained much to do for the State office. Many former soldiers, sailors and marines, could not be placed in fitting or desired

jobs immediately following the signing of the Armistice. In the ten months after September 1, 1919, 918 applications from ex-service men were received and 677 placements were recorded. Many of these applicants had jobs and the majority of those not directed were advised to hold the jobs they had. Special efforts were made continually to direct those who had become physically handicapped. Active cooperation with employers and home service bureaus of the American Red Cross is maintained toward this end.

PUBLICITY.

Unusual interest has been displayed and great assistance rendered by the daily newspapers in this community. Not a week passed but that one or more short news stories regarding some phase of the work in the employment office appeared in their columns. For this service the general public should feel greatly indebted and I want to take this occasion to thank the Aurora Beacon-News and the Volksfreund for their great service.

There are times when the work of the office could be accelerated and greater efficiency procured if a limited advertising fund were available. Such a fund, however, would require careful State supervision in order not to endanger the help needs of other communities or disturb employees who have jobs.

IN CONCLUSION

In conclusion, it should be said that the State employment service under the Illinois Department of Labor is recognized as an established institution for the general good of all. The skepticism of employers, of trades unions, and of the public in general, towards public employment offices has disappeared. The Aurora office was fortunate in not becoming involved with anyone as being unfair. While the office in the public eye may be regarded as being quite successful there is vast room for improvement and it is believed that with vigilance and unceasing effort its efficiency and service can be increased one hundred per cent.

DIVISION OF BLOOMINGTON FREE EMPLOYMENT OFFICE

JOHN E. MATTHEWS, *Superintendent*

During the year beginning July 1, 1919, and ending June 30, 1920, this office has encountered unusual conditions. We have passed through strikes and lockouts, some of a minor nature and others more serious; but during this difference of opinion and the adjustment of grievances this office has been equally fair to all parties involved. If any action taken by us during these controversies has warranted criticism we have no knowledge of it. At this date only one small grievance exists, which will no doubt be settled in the near future in a way satisfactory to all concerned.

A great deal of building has been under construction in this city during the past year, amounting to several million of dollars, giving employment to all mechanics and common labor of the building trades. No city in the State has furnished better opportunities for employment in this line than the city of Bloomington. This office has cooperated with the contractors and has rendered valuable assistance in every emergency.

Another problem encountered during the year was the shortage of farm labor. This was due to several causes. In the first place, the farm workers from Kentucky and Tennessee did not arrive in the spring as they usually do. Two reasons were given for this. First, the high price of tobacco was an incentive to these men to stay in the South and raise a crop as this would bring better returns in a financial way than to come North and go on the farms. Second, the building trades in the South were operating on a larger scale and paying good wages for common labor.

The situation was discouraging, even more so than during the war; but we took advantage of every opportunity that presented itself. Whenever a foreign farm worker applied for a position, the question was asked, "Do you know of one or more men who would go to the farm?" If so, a letter went out in the next mail to the address given. This proved successful and brought in men from Indiana, Missouri and southern Illinois.

On account of the shortage of farm workers the wage increased about \$10 per month. This being the heart of the corn-belt, in the State of Illinois, farm needs are very important and cannot be neglected. We have never considered office hours, when a vacancy could be filled on the farm. The farmers of the district appreciate the service rendered by

the Illinois Free Employment Service and the Department of Labor is entitled to credit for the consideration given to this department during the past year. At this date, labor conditions on the farm in this district are normal.

The past year has been exceptionally good for all classes of workers. Opportunities were open on every hand for men or women applying for positions. Only occasionally did we report a surplus of any class of workers, and we could have placed them in good positions if they would have accepted.

This office finds it a very difficult matter to place domestics. It is almost impossible to direct a woman for household service, either in the city or country. Good wages are offered, but the average woman will not consider this class of employment. We have positions open continually in good homes. Factories, stores, hotels and restaurants are preferred in almost every case.

Publicity is a great assistance in this work. No opportunity is allowed to pass that will benefit the service. The two daily papers of this city have cooperated in a creditable manner, never refusing to run any news item given them (regardless of space) either during the war or since the signing of the Armistice. I do not have to call on them to get this favor, it is solicited at the office by the reporters. Scarcely a day passes that they do not call. This cooperation is greatly appreciated.

This office has not been an exception to any other in the State. It takes time to educate the general public on any proposition, and with this in mind we undertook the work convinced that by extending courteous treatment to patrons, in a fair and fearless manner, the service of the office would soon be established. We had private employment offices to contend with. It took ten days to convince these men of the efficiency of the service. Their offices closed and have not been reopened. The average employer had to be convinced that we could examine and direct men and women capable of filling the various positions their business required. This fact has been established, as our records will show. We have gained the confidence of the Association of Commerce, Better Farming Association, organized labor, the city administration and the Merchants' and Manufacturers' Association, and have had the cooperation of the same since being established in this city. Each has contributed in several instances to make the service successful in every particular.

In conclusion, I wish to state that it will be our purpose to operate the office in such a way that efficiency will prevail, equal privileges be extended to all patrons of the service, and to strictly adhere to the instructions as given by the Department of Labor.

Placements for the year were not tabulated until May 5, 1920, when instructions were given to do so and forms supplied for this purpose. Total placements are as follows: Men, 3,673; women, 361; total, 4,034.

DIVISION OF GENERAL ADVISORY BOARD OF THE FREE EMPLOYMENT OFFICES

A. H. R. ATWOOD, *Secretary*

F. S. DEIBLER, *Chairman*

OSCAR G. MAYER

MRS. RAYMOND ROBINS

JOHN H. WALKER

Free employment offices are operated in eleven cities in the State.

They are operated primarily to bring the job to the man seeking employment. By this act, both the employer and employee are served and the community is benefited by saving what would otherwise be waste labor power.

The following tables show what the offices of the State are doing in the way of placing men. The figures given are for February to June, 1920, inclusive, as previous to February, the reports of the offices were not in a shape to use for comparative purposes:

TABLE IA—REGISTRATIONS

Offices.	February.		March.		April.		May.		June.	
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Total.
Aurora.....	506	84	590	642	124	766	499	151	650	704
Bloomington.....	332	41	373	471	74	545	396	60	456	1,143
Chicago.....	9,717	1,441	11,158	14,446	2,279	16,725	13,654	2,068	15,712	20,512
Danville.....	161	30	191	209	30	239	228	42	270	362
Decatur.....	482	96	578	768	155	923	337	143	480	569
East St. Louis.....	358	754	1,112	501	915	1,416	140	627	767	1,089
Joliet.....	460	281	741	526	250	776	393	215	608	741
Peoria.....	556	485	1,041	663	545	1,208	637	489	1,126	1,145
Rockford.....	747	504	1,251	904	690	1,494	728	491	1,219	1,168
Rock Island.....	818	157	975	1,387	227	1,614	1,328	300	1,628	2,046
Springfield.....	382	126	508	453	152	605	490	112	602	751
Total.....	14,519	3,999	18,518	20,970	5,341	26,311	18,830	4,688	23,518	30,294

TABLE IB—HELP WANTED

Offices.	February.		March.		April.		May.		June.	
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Total.
Aurora.....	420	108	528	623	132	755	501	175	676	716
Bloomington.....	278	53	331	437	84	521	407	69	476	1,277
Chicago.....	13,287	2,523	15,810	18,830	3,636	22,466	16,002	3,288	19,290	22,282
Danville.....	200	55	255	197	45	242	285	39	324	355
Decatur.....	366	100	466	542	132	674	439	143	582	455
East St. Louis.....	208	1,200	1,408	609	991	1,600	258	703	961	1,245
Joliet.....	536	334	870	348	323	671	492	214	703	763
Peoria.....	807	546	1,353	925	561	1,486	811	497	1,308	1,496
Rockford.....	1,635	484	2,319	1,624	734	2,358	1,253	699	1,952	1,900
Rock Island.....	1,265	187	1,452	1,785	289	2,074	1,858	379	2,237	2,619
Springfield.....	383	186	569	469	219	688	505	134	639	765
Total.....	19,385	5,975	25,360	26,389	7,146	33,535	22,811	6,340	29,151	33,531

TABLE IC—REFERRED

Offices.	February.			March.			April.			May.			June.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
	333	80	413	516	96	611	440	102	542	426	127	553	519	94	613
	292	36	328	437	73	510	373	60	433	371	61	432	394	61	455
	9,822	1,641	11,463	13,724	2,512	16,236	11,585	2,042	13,627	13,006	2,248	15,254	17,133	2,509	19,642
	149	41	190	183	25	208	205	33	238	223	34	257	273	44	317
	263	74	337	527	131	658	354	121	475	307	118	425	331	159	490
	248	753	1,001	409	831	1,240	269	628	897	140	690	830	210	623	1,073
	254	344	598	345	274	619	351	232	583	332	218	550	363	267	630
	635	487	1,122	602	545	1,147	553	334	887	637	406	1,043	679	471	1,150
	694	444	1,138	780	534	1,314	634	424	1,058	638	457	1,095	560	463	1,013
	793	135	928	1,350	204	1,554	1,415	242	1,657	1,278	233	1,511	1,568	282	1,850
	367	123	490	424	145	569	346	105	451	477	106	583	1,559	152	1,711
	13,861	4,060	17,921	19,446	5,413	24,859	16,525	4,519	21,044	17,835	4,716	22,551	23,778	5,765	29,543

TABLE ID—PLACED

February.			March.			April.			May.			June.		
Female.		Total.	Male.		Female.	Total.	Male.		Female.	Total.	Male.		Female.	Total.
59	331	373	75	448	333	76	408	325	98	424	425	75	509	
27	200	227	53	448	321	26	357	243	34	377	341	47	388	
1,245	9,078	11,459	2,024	13,513	9,731	1,690	11,421	11,605	1,731	13,336	15,363	1,937	17,300	
25	105	133	25	163	172	25	197	214	24	238	241	29	270	
48	196	199	77	276	160	77	237	196	52	278	232	71	303	
722	934	439	840	1,279	247	571	818	133	575	707	195	771	967	
177	404	253	214	473	268	198	466	245	181	426	233	189	492	
477	1,124	652	541	1,193	582	533	1,064	637	483	1,120	604	463	1,127	
427	1,057	733	492	1,230	588	388	978	690	426	1,026	517	421	938	
104	737	1,132	182	1,314	1,233	214	1,437	1,163	230	1,393	1,506	252	1,738	
95	395	366	108	474	300	84	384	414	85	499	462	126	588	
11,243	3,409	14,652	16,180	4,630	20,810	13,874	3,891	17,765	15,873	3,970	19,843	20,780	4,371	25,151
Total.....														

In these tables the number of persons seeking work, month by month, is given under the heading "Registrations." The demand for labor is found under the title "Help Wanted." Those sent out from the offices are shown under "Referred." Those who accepted positions are shown under "Placed." This latter classification means a verified placement, the verification being either by 'phone or by mail. It will be seen by these tables that from 14,519 to 24,704 men, and from 3,999 to 5,535 women, a total ranging from 18,518 to 30,294 persons have sought positions monthly through the eleven offices of the State. The demand for labor from employers has ranged from 19,385 to 26,963 for men, and from 5,975 to 7,147 for women, a total demand ranging from 25,360 to 33,581 for the months under review.

The eleven offices referred monthly from 13,861 to 23,278 men and 4,060 to 5,765 women, or a total monthly reference of persons to jobs ranging from 17,921 to 29,043. The placements varied monthly from 11,243 to 20,730 for men and 3,409 to 4,630 for women, a total monthly placement figure ranging from 14,652 to 25,101. This volume of business shows the appreciation of the people of the State of the facilities afforded through the employment offices.

The second function which an organized system of free employment offices can perform, is the collection and dissemination of information concerning the state of labor market. If the system of employment offices handled all the placements in the industries of the State, the records would reflect accurately the fluctuations in the demand and supply of labor. While only a small proportion of the total movement of labor passes through the free employment offices, yet it is fair to assume that the experience of these offices is indicative of labor market conditions. For where labor is scarce, employers will turn, among other sources of recruiting labor, to the employment offices. This fact will show itself in an increase in the number of workmen called for. Likewise, when the supply of labor is large, workmen will turn, among other places, to the employment offices for jobs. This will be reflected in increased registrations. The activities of the employment offices, therefore, serve as a fair barometer of labor conditions. When these facts are compiled by occupational or industrial groups, they reflect very accurately the conditions of the labor market. This service is of importance both to the employer and the employee.

The following tables illustrate partially how the records of these offices can be made to throw light on the labor market:

TABLE II-A--NUMBER REGISTERED PER 100 HELP WANTED

Offices.	February.			March.			April.			May.			June.		
	Male.	Female.		Male.	Female.		Male.	Female.		Male.	Female.		Male.	Female.	
		Total.			Total.			Total.			Total.			Total.	
Aurora.....	120	81	112	103	94	101	104	97	103	98	86	96	100	90	99
Bloomington.....	119	77	113	108	86	105	120	103	118	97	87	96	89	94	90
Chicago.....	73	57	71	77	62	74	82	64	79	85	63	81	97	66	92
Danville.....	81	55	75	106	66	99	82	120	87	80	107	87	100	117	98
Decatur.....	133	96	124	142	117	137	220	144	198	77	101	83	124	127	125
East St. Louis.....	172	63	79	82	92	89	77	86	85	54	89	80	74	92	89
Joliet.....	86	84	85	151	77	115	118	85	106	80	100	86	86	116	97
Peoria.....	69	89	77	72	97	81	75	96	85	79	98	86	67	98	77
Rockford.....	46	104	54	56	80	63	46	68	55	58	70	62	50	84	61
Rock Island.....	65	83	67	76	78	78	67	73	67	71	80	73	76	91	78
Springfield.....	100	68	89	97	69	88	103	83	97	97	83	94	100	93	98
Total.....	65	68	73	80	75	78	72	75	80	83	74	81	91	79	89

TABLE II-B--NUMBER PLACED PER 100 REGISTERED

Offices.	February.			March.			April.			May.			June.		
	Male.	Female.		Male.	Female.		Male.	Female.		Male.	Female.		Male.	Female.	
		Total.			Total.			Total.			Total.			Total.	
Aurora.....	54	70	56	58	60	58	59	64	60	65	65	65	72	66	71
Bloomington.....	70	66	70	84	70	86	78	53	74	87	57	83	79	59	78
Chicago.....	81	87	81	80	89	81	77	87	79	85	85	85	85	81	84
Danville.....	50	83	55	66	83	68	81	32	78	94	57	88	78	54	75
Decatur.....	31	50	34	26	50	30	27	67	31	58	57	53	58	38	51
East St. Louis.....	59	96	85	88	92	90	91	90	90	94	92	92	93	89	89
Joliet.....	49	87	55	49	86	61	53	100	71	62	84	70	69	59	65
Peoria.....	116	99	108	98	100	100	96	99	98	100	99	99	98	97	98
Rockford.....	88	88	87	82	83	85	83	85	83	82	87	84	83	78	80
Rock Island.....	77	66	76	82	80	81	84	81	83	88	77	86	89	73	86
Springfield.....	79	75	78	81	71	78	83	77	81	84	77	81	79	75	78
Total.....	101	85	79	78	87	79	76	86	78	84	85	84	84	81	83

TABLE II-C—NUMBER PLACED PER 100 HELP WANTED

Offices.	February.			March.			April.			May.			June.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
.....	65	55	63	60	57	69	62	61	63	65	57	63	73	60	70
.....	84	51	79	91	62	85	94	55	88	84	51	79	70	57	70
.....	50	40	57	61	56	61	63	56	79	73	63	90	82	54	78
.....	41	46	42	70	55	68	67	72	68	72	62	72	78	62	76
.....	40	48	42	37	58	41	60	67	62	45	57	49	72	49	63
.....	101	60	66	72	35	80	70	77	77	51	82	73	69	80	78
.....	42	53	40	74	68	70	84	85	75	80	88	90	60	89	83
.....	70	57	83	70	96	80	72	95	82	70	97	84	86	96	75
.....	48	88	47	45	67	53	38	57	44	48	61	84	41	68	49
.....	50	56	61	63	63	63	56	58	56	63	61	62	67	66	67
.....	78	51	80	78	49	69	85	64	79	82	63	78	78	71	77
Total.....	57	57	58	61	65	62	76	86	63	70	63	66	77	63	74

TABLE II-D—NUMBER PLACED PER 100 REFERRED

Offices.	February.			March.			April.			May.			June.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Aurora.....	71	74	71	72	76	73	75	74	75	76	78	77	82	80	82
Bloomington.....	80	71	78	91	72	86	90	80	82	92	67	89	85	77	84
Chicago.....	81	75	88	84	81	83	84	83	84	89	78	98	89	77	88
Danville.....	58	61	59	96	100	79	84	66	81	96	71	92	89	66	74
Decatur.....	51	65	53	58	59	42	44	64	49	64	70	65	67	44	60
East St. Louis.....	35	06	93	38	05	95	82	91	91	94	93	92	93	89	90
Joliet.....	04	73	67	75	76	76	76	81	81	74	89	77	61	71	78
Peoria.....	09	06	06	06	09	04	06	100	98	200	99	00	98	98	18
Rockford.....	95	96	96	95	92	94	94	92	93	94	93	94	94	91	93
Rock Island.....	80	77	79	84	88	85	86	88	86	91	91	91	90	89	90
Springfield.....	64	77	82	86	74	83	87	80	85	87	80	86	83	83	83
Total.....	51	84	82	83	85	84	84	86	84	89	84	88	89	82	87

There are four important questions which can be answered from these tables:

1. What is the relation of the supply and demand for labor? This can be shown by comparing the numbers registered with the numbers called for by employers. When these figures are compiled month by month, the fluctuations in the demand for labor will be evident.

2. The employees may ask, What chance have I to get a job through the employment office? A comparison of the number placed with the number registered will show this information.

3. The employer may ask, What chance have I to get my supply of labor from the employment office? A comparison of the number called for with those placed will answer this question.

4. The employer may ask a further question, "How many applicants will I have to interview if I get my help through the State offices? In other words, how efficient are the offices in fitting the men with the jobs? A comparison of those referred with those placed will give this information.

Further analysis will show that for the period under review—February to June, inclusive—there was a distinct slowing down in the demand for labor. Taking the figures for the whole State in February, there were 65 men registered for each 100 jobs, while in June there were 91. This means that while the demand still exceeds the supply, there had been a 26 per cent increase in the relative supply. The same change in the demand for women is shown, although in a less marked degree. The figures for women show a relative increase in supply from 68 to 79, or 11 per cent.

What is of even greater significance is the relation of demand and supply in different parts of the State. In several of the cities, there were more men seeking jobs than were called for. In Aurora, Bloomington and Decatur, the records show that during several of the months under review, more men were seeking positions than there were calls for help in those cities. One of two inferences may be drawn from these facts, either the men were dissatisfied with their pay and were therefore looking for better paying positions, or there was unemployment which ran up to a considerable figure in the case of Decatur, in all the months except May.

When these figures are collected on an occupational basis and a careful analysis is made and checked up, it is possible to determine whether there was real unemployment. In the event that there was a surplus of labor in any part of the State, and a shortage in another, as is shown in these figures for Rockford during the five months under review, where the demand was nearly double the supply, it would be possible to bring the opportunities to the attention of the idle men and aid any who were in a position to take advantage of this condition to

find profitable employment elsewhere. By developing a system of clearing within the State, a service would be rendered both the employers and employees, and by so doing the prosperity of the State would be fostered. The above figures are given as indicative of the possibility of using the records of the employment offices as a barometer of general labor conditions. When these records are compiled and analyzed by occupations, they will give a very helpful view of the labor conditions throughout the State, which would be beneficial to all persons concerned.

In answer to the other questions raised above, it can be seen that, taking the total figures for the State, from 79 per cent to 84 per cent of the employees seeking positions were placed; that employers were able to get from 58 per cent to 74 per cent of their labor demands, and that they accepted from 81 per cent to 88 per cent of the employees sent out by the offices. This record of accomplishment is gratifying to the administration of the Free Employment Offices, and shows an effective and loyal organization in the service.

However, for the employment offices to perform the two-fold functions in their most effective manner, there are certain needs that should receive immediate attention:

First, the compensation of the employees should be placed on a basis that would enable the State to secure and retain trained employees in the service. Labor turnover is just as expensive in public service as in private employment. In this work, training in the selection of men and women for jobs is necessary for efficient service. Next, experience, which comes from length of tenure, is a most important qualification for a placement clerk. These two qualifications should merit adequate compensation which could best be attained by a classified civil service rating, in which provision for promotion is made.

The second important need is a more effective method of selecting employees of the service. Positions in all of the offices should be analyzed and qualifications with the Civil Service Commission agreed upon, just as is now done in all well managed private business concerns. When vacancies occur, requisitions should be made in accordance with the standard specifications. By agreement with the State Civil Service Commission, it would be possible to work out a system of selecting employees for this service similar to what is found in all well organized labor departments in private business. Such a system of selection, coupled with adequate compensation would greatly increase the efficiency of the Free Employment Service.

Then there should be additional funds provided for compiling and publishing information concerning labor conditions in the State. The State of New York publishes a Labor Market Bulletin that furnishes a guide to business, financial and labor interests of the State. This bulletin is widely quoted in financial and trade journals. The General Advisory Board has planned a similar publication for this State, but

for such information to be useful, it should be published promptly while the information is representative of conditions. Such a bulletin cannot be published unless additional funds are appropriated for the collection of information and for the printing of a bulletin to lay the facts, while they are still fresh before the people of the State.

Lastly, there should be devised an effective system of clearing positions among the various offices of the State. The figures given above in table 1-a, show that there was surplus labor in some localities and shortages in others. It is one of the functions of a system of free employment offices to organize the labor market so as to reduce unemployment. This can be done only by an organized clearing system. For such a system to be effective, it would require the appointment of a man to devote his whole time to this work. He should have sufficient funds to keep in daily touch with all the offices of the State. By so doing, he would be enabled to connect any surplus labor that was free to move, with positions in other localities. Such a system of clearing would be of great economic advantage to the State.

DIVISION OF CHIEF INSPECTOR OF PRIVATE EMPLOYMENT AGENCIES

JOHN J. McKENNA, *Chief Inspector*

This division has passed through its third year without having to cause any arrests or occupy the time of the courts with its business.

Our systems of recording and investigating each day the advertisements in the principal newspapers of the city pertaining to labor of all kinds, keeps us in touch with what is going on in this line of business. Where anything contrary to the law regulating private employment agencies exists, it is immediately checked by our inspectors.

The law enacted for the purpose of regulating private employment agencies has brought a wonderful change in the conduct of these concerns. Previous to the act, the office of the Chief Inspector each morning would find fifty to one hundred complaints. The inspectors were kept busy serving warrants and the time of the courts was taken up in hearing cases pertaining to labor charges against the agencies. The figures in our report show better the condition of this division of the Department of Labor, pertaining to private employment agencies, than can be expressed in words.

A few amendments might be made to the law, one of which would be to define when a person applying for employment to private employment agencies is liable to pay the fee. Without a law we hold that the applicant is liable only when he physically takes hold of the position. This is one of the questions that gives us a great deal of trouble.

Another cause for complaint is the taking of judgment notes from the applicants by agencies previous to acceptance of positions.

With these two questions settled we would have no difficulty in managing the affairs of the private employment agencies and applicants for positions under the present law.

Another question that might be given consideration is the subject of public information pertaining to the business of private employment agencies for the instruction of those interested in labor problems and legislation, namely:

A law compelling the agencies to furnish the State Department of Labor with a monthly report of the number of all applicants applying for positions, their ages, etc., and also the number of all persons brought into the State and sent out of the State and to where sent, the kind of employment for which they were engaged, etc.

DIVISION OF CHIEF INSPECTOR PRIVATE EMPLOYMENT AGENCIES 147

The following shows the activities of the office for the fiscal year:

Number of bi-monthly reports of inspectors.....	2,177	
Number of daily reports of inspectors.....	14,482	
Number of newspaper ads investigated.....	103	
Number of complaints investigated against agencies.....	459	
Number of complaints in which refunds were given.....	423	
Number of complaints, no claims.....	24	
Number of complaints, another position given.....	12	
Number of complaints, miscellaneous nature.....	2	
Number of complaints received.....	461	
Amount of money refunded by agents to complainants.....	\$2,584.78	
Number of licenses at \$50 each.....	296	\$14,800.00
Number of licenses at \$25 each.....	17	425.00
Total amount of revenue.....	313	\$15,225.00
Number of licenses issued in Chicago.....	295	
Number of licenses issued in Peoria.....	1	
Number of licenses issued in Evanston.....	5	
Number of licenses issued in Winnetka.....	2	
Number of licenses issued in Wilmette.....	1	
Number of licenses issued in Glencoe.....	3	
Number of licenses issued in Highland Park.....	1	
Number of licenses issued in Danville.....	1	
Number of licenses issued in Calro.....	2	
Number of licenses issued in Galesburg.....	1	
Number of licenses issued in Lake Forest.....	1	
Total		313
Number of licenses discontinued.....		85
Number of warrants issued.....		None

DIVISION OF FACTORY INSPECTION

ROBERT S. JONES, *Chief Inspector*

The twenty-seventh annual report of the Chief State Factory Inspector, and the third under the Civil Administrative Code for the year ended June 30, 1920, contains a statement of the activities of this division in the enforcement of the State statutes under its jurisdiction.

The report of the Division of Factory Inspection for the fiscal year 1919-1920, under the Civil Administrative Code of July 1, 1917, shows greater willingness on the part of employers to cooperate with this department.

SUMMARY OF INSPECTIONS—JULY 1, 1919, TO JUNE 30, 1920

This table shows the number of establishments visited and the number of inspections made by this division for the above period. In many cases the same establishments were reinspected or checked-up several times before compliance with the provisions of the various laws could be enforced, owing to the extensive nature of some of the orders given.

While minor details are not given in this table, statistics are on file in the office of the Chief Inspector giving information in full of the results obtained by this division under the various laws.

SUMMARY OF INSPECTIONS—JULY 1, 1919 TO JUNE 30, 1920

Laws enforced.	Number of establishments visited.	Number of inspections.	Number of establishments visited.	Number of inspections.
Under the provisions of the—				
Child Labor Law, Cook County.....	45,237	51,010		
Child Labor Law, outside Cook County.....	23,020	23,020		
Child Labor Law, entire State.....			68,257	74,030
Women's Ten Hour Law, Cook County.....	17,134	20,053		
Women's Ten Hour Law, outside Cook County.....	10,444	10,444		
Women's Ten Hour Law, entire State.....			27,578	30,497
Structural Iron Law, entire State.....			200	271
Blower Law, entire State.....			495	1,088
Wash Room, entire State.....			299	299
Health, Safety and Comfort Law, Cook County.....	5,053	5,053		
Health, Safety and Comfort Law, outside Cook County.....	2,284	2,284		
Health, Safety and Comfort Law, entire State.....			7,337	7,337
Total for entire State.....			104,166	113,522
<hr/>				
Total number of inspections—				
Chicago and Cook County.....				51,010
State outside Cook County.....				23,020
Total				74,030

This table does not include all the minor details, but statistics are on file in the office of the Chief Inspector giving this information in detail of the results obtained by this division under the above law.

CHILD LABOR LAW

The number of establishments visited to enforce the provisions of the Child Labor Law in Chicago and Cook County as given in the above table were 45,237 and, as many of these establishments have been inspected more than once the number of inspections made is 51,010. The total number of children was: boys 7,886; girls 7,255, or a percentage of 1.5 to the total number of workers employed in the establishments inspected.

In the State of Illinois outside of Chicago and Cook County 22,971 establishments were inspected. The number of children found working was 2,837 boys and 1,198 girls or nearly 1.2 per cent. The number of inspections was 22,971.

RESULTS OF INSPECTIONS UNDER CHILD LABOR LAW—JULY 1, 1919 TO JUNE 30, 1920.

WOMEN'S TEN HOUR LAW

The number of establishments visited in Chicago and Cook County are given in the statistical table appended as 17,134 and in towns and cities in the State of Illinois, outside Chicago and Cook County 10,444. The total number of establishments visited in the entire State 27,578 requiring 30,497 inspections. The number of violations found by the deputy inspectors are given as 2,838, but it was only necessary to prose-

cute in 66 cases to secure compliance with the requirements of this division.

THE STRUCTURAL LAW

The number of jobs inspected in Chicago and Cook County under the provisions of this law was 183 and in the State of Illinois, outside Cook County 17, a total for the entire State of 200 requiring 271 inspections. Seven corrective orders were issued involving the safety of 21,365 employees; the number of accidents reported being six, of which two were fatal.

RESULTS OF INSPECTIONS UNDER THE STRUCTURAL LAW—JULY 1, 1919 TO JUNE 30, 1920

Location.	Number of inspections.	Number of jobs.	Nature of work.							Employees.	Orders issued.	Accidents reported.		
			Erecting.	Repairing.	Altering.	Wrecking.	Cleaning.	Painting.	Excavating.			Total.	Fatal.	Non-fatal.
Chicago and Cook County.....	254	183	129	13	1	4	15	18	3	20,567	7	3	2	1
East St. Louis.....	3	3	3	—	—	—	—	—	—	150	—	1	—	1
Joliet.....	1	1	1	—	—	—	—	—	—	8	—	—	—	—
Pekin.....	1	1	1	—	—	—	—	—	—	160	—	1	—	1
Peoria.....	1	1	1	—	—	—	—	—	—	65	—	—	—	—
Quincy.....	8	8	8	—	—	—	—	—	—	198	—	1	—	1
Springfield.....	8	8	8	—	—	—	—	—	—	217	—	—	—	—
Total.....	271	200	146	13	1	4	15	18	3	21,365	7	6	2	4

THE BLOWER LAW

In Chicago and Cook County 444 establishments were visited 1,014 times and in the State, outside of Cook County, 51 establishments required 74 inspections; the total for the entire State being number of establishments visited 495, number of inspections 1,088. The number of wheels inspected was 4,239, only 14 being found to be unprotected, many of these wheels being in that condition owing to the nature of the work being done making it impossible to install safety devices. A total of 282 orders were issued classified in the subjoined table and it was not found necessary to prosecute in any case to secure compliance with the orders of the division. The number of employees safeguarded was 4,239, of which 50 were females. Nearly all of these inspections are made by one inspector who reports that he has little difficulty in securing compliance with the requirements of this department.

RESULTS OF INSPECTIONS UNDER THE BLOWER LAW- JULY 1, 1919 TO JUNE 30, 1920

Location.	Number of establishments.	Number of inspections.	Industries.										Number of employees.			Number of hours.		Number of wheels.		Orders issued for						
			Job shops.	Stoves.	Tools and implements.	Beds.	Fixtures.	Cutlery and hardware.	Novelties.	Machinery and foundries.	Jewelry.	Miscellaneous.	Total.	Males.	Females.	Eight hours.	Nine hours.	Total.	Protected.	Unprotected.	Total.	Increase in number of orders.	Orders issued for portable blower.	Orders issued for blower type.	Orders issued for blower and pump.	
Chicago and Cook County.....	444	1,014	115	6	14	4	49	182	28	8	4	24	3,629	3,583	46	42	402	3,629	3,623	6	244	74	22	5	4	62
State of Illinois outside Cook County.....	51	74	5	12	9	---	1	21	1	---	1	1	610	606	4	4	47	610	602	8	34	14	3	2	---	---
Total for entire State.....	495	1,088	120	18	23	4	50	203	29	8	5	35	4,239	4,189	50	46	449	4,239	4,245	14	282	92	25	7	---	---

RESULTS OF INSPECTIONS UNDER THE HEALTH, SAFETY AND COMFORT LAW—JULY 1, 1919 TO JUNE 30, 1920

Location.	Total number of inspections.	Out of business.	New orders issued.	Previous items complied with.	Previous orders checked up, no further orders.	Number of male employees.	Number of female employees.	Items complied with.	Building.	Sanitation.	Power.	Dangerous machinery.	Dangerous machinery parts.	Total.
.....							52,804	12,970	785	1,001	1,845	554	7,135	11,220
.....							9,776	5,768	403	272	637	131	2,412	8,865
.....							64	261	3	12	7	1	12	35
.....							265	378	12	47	13	—	22	34
.....							5,560	163	—	256	—	—	—	266
Total.....							68,469	19,541	1,203	1,588	2,502	686	9,581	15,560

THE WASH HOUSE LAW

In Chicago and Cook County this division issued orders for the installation of 122 wash houses and in the State, outside of Cook County 48 orders were issued. In making 77 reinspections in Chicago and Cook County it was found that 54 establishments had fully complied with the requirements of this division and in the balance of the State 27 firms had complied; the total for the State being 81 leaving 48 firms in process of completion (exclusive of the new orders issued).

RESULTS OF INSPECTIONS UNDER THE WASH HOUSE LAW—JULY 1, 1920 TO JUNE 30, 1920

Location.	Inspections.	Employees.	Complied.	Orders pending completion, exclusive of new orders.
NEW INSPECTIONS.				
Chicago and Cook County.....	122	27,774	-----	-----
State of Illinois outside Cook County.....	48	7,604	-----	-----
RE-INSPECTIONS.				
Chicago and Cook County.....	77	-----	54	23
State of Illinois outside of Cook County.....	52	-----	27	25
Total.....	299	35,378	81	48

HEALTH, SAFETY AND COMFORT LAW

This table shows that in Chicago and Cook County 5,053 inspections were made under the provisions of this law and in the State, outside of Chicago and Cook County 2,284 inspections were made; a total for the State of 7,337. The various items of the orders issued, 15,560, being divided into those relating to building 1,203, sanitation 1,088, power 2,502, dangerous machinery 686 and dangerous machinery parts 9,581; a complete analysis being given of these items in the accompanying table.

ANALYSIS OF ALL ORDERS UNDER THE HEALTH, SAFETY AND COMFORT LAW—JULY 1, 1919 TO JUNE 30, 1920

Classification.	Chicago and Cook County.	State outside Cook County.	Total.
I. Building—			
1. Exits and fire escapes.....	23	11	34
2. Doors slide and roll.....	5	1	6
3. Stair treads.....	30	13	43
4. Handrails and toeboards.....	266	211	477
5. Openings in floors.....	40	47	87
6. Elevators, automatic gates and slant boards.....	267	73	340
7. Elevator cars.....	39	19	58
8. Safety devices.....	4	1	5
9. Proper light.....	42	9	51
10. Heating systems.....	4	3	7
11. Passageways and obstructions.....	48	8	56
12. Dangerous places.....	20	19	39
	788	415	1,203

ANALYSIS OF ALL ORDERS UNDER THE HEALTH, SAFETY AND COMFORT LAW—
JULY 1, 1919 TO JUNE 30, 1920—Concluded

Classification.	Chicago and Cook County.	State outside Cook County.	Total.
II. Sanitation—			
1. Toilets.....	406	191	597
2. Washing and dressing rooms.....	326	66	392
4. Seats for females.....	12	3	15
6. Ventilation.....	256		256
7. Remove dust and fumes.....	252	47	299
8. Rooms, dry, clean and sanitary.....	4	3	7
9. Install or guard fans or blowers.....	8	6	14
10. Guard ovens, furnaces, vats, pans, etc.....	5	3	8
	1,269	310	1,588
III. Power—			
1. Engine stops and disengaging devices.....	26	3	29
2. Signal systems.....	8		8
3. Belt shifters.....	39		39
4. Boiler and engine rooms.....	69	9	78
5. Clutches, couplings and weights.....	398	79	477
6. Switches and throttles.....	3	6	9
7. Dynamos and motors.....	9	1	10
8. Electric appliances.....	15	21	36
9. General orders.....	1,284	531	1,815
10. Crank shafts.....	1		1
	1,852	650	2,502
IV. Dangerous machinery—			
1. Hydro extractors.....	56	7	63
2. Mangles, rolls, drums, crushers and tumblers.....	42	22	64
3. Band saws.....	66	28	94
4. Circular saws.....	176	46	222
5. Planers.....	7		7
6. Shapers.....	8		8
7. Jointers.....	133	21	154
8. Sanders.....	2		2
9. Sticklers and mortisers.....	20		20
10. Trip hammers, bulldozers and shears.....	1	2	3
11. Printing presses.....	44	5	49
	555	131	686
V. Dangerous machinery parts—			
1. Flywheels.....	679	221	900
2. Punch and drill presses at point of work.....	7	4	11
3. Planer and shaper beds under platen.....	65	42	107
4. Pipe machines and turret lathes.....	3	26	29
5. Gears.....	1,077	289	1,366
6. Belts and pulleys.....	3,681	1,381	5,062
7. Sprocket chains and conveyors.....	210	41	251
8. Shafting and roll bearings.....	687	117	804
9. Set screws and bolt keys.....	499	228	727
10. Emery wheels.....	237	74	311
11. Cranes.....	1	10	11
12. Cutters, feather and leathers splitters.....	1	1	2
	7,147	2,434	9,581
Total (including railroads).....	11,611	3,949	15,560

OCCUPATIONAL DISEASE LAW

The number of firms reporting under classification "A", lead poisonings, is given as 225; one hundred and twenty-three cases being reported sick, a diagnosis of each case being on file. Under class "B", other poisonings, 67 firms reported, the number of sick under this classification being 4. The monthly average of workers examined was 9,564 or a total for the year of 110,573 employees examined in the various industries coming under the provisions of this law.

OCCUPATIONAL DISEASE REPORTS, SECTION 4 OCCUPATIONAL DISEASE LAW, CLASSIFIED BY INDUSTRIES—JULY 1, 1919 TO JUNE 30, 1920.

	Number of employees reported on for
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VENTILATION INSPECTIONS

Although the following table gives in detail the work accomplished by the division the totals are included in the health, safety and comfort report, page 57.

VENTILATION INSPECTIONS UNDER SECTION 11 OF THE HEALTH, SAFETY AND COMFORT ACT—JULY 1, 1919 TO JUNE 30, 1920

Location.	Number of inspections.	Number of establishments visited.	Number of work-rooms inspected.	Number of employees.	Re inspections.	Complied.	Orders issued for—	
							1,500 cubic ft.	1,800 cubic ft.
Chicago.....	516	323	355	11,120	193	163	157	99

ACCIDENTS REPORTED DURING THE FISCAL YEAR JULY 1, 1919 TO JUNE 30, 1920

Fatal accidents.	Non-fatal accidents.	Total.	Machinery.	Other causes.	Total.	Time lost—days.
17	122	139	32	107	139	3,566

ANALYSIS OF ACCIDENTS

	Machinery.	Other causes.		Machinery.	Other causes.
Head—			Legs—		
Eyes.....	1	12	Ankles.....		3
Face.....			Feet.....	1	21
Skull.....	5	5	Toes.....		1
	6	17	Knee.....	2	5
			Thighs.....		3
Arms—			Legs.....		8
Fingers.....	9	7		3	41
Hand.....	8	12			
Arm.....	9	5	Hernia—		
Wrist.....		4	Rupture.....		1
	26	28			1
Body—			Machinery accidents.....		37
Back.....		3	Accidents from other causes than machinery.....		102
Chest.....	2	11			
Shoulders.....		1	Total.....		139
	2	15			

PROSECUTIONS

There were 438 cases of prosecutions in Chicago and Cook County, the fines imposed being \$1,800 and costs \$1,912.95, a total of \$3,712.95. In the State of Illinois, outside of Cook County 246 cases were prosecuted resulting in fines of \$1,941 and costs \$1,405.35, a total of \$3,346.35. The total for the entire State of fines \$3,741 and costs \$3,318.30, makes a combined total of fines and costs of \$7,059.30. The total number of cases for the State was 684.

PROSECUTIONS—JULY 1, 1919 TO JUNE 30, 1920

Chicago and Cook County.				Number of cases.			
Child Labor Law.....				385			
Women's Ten Hour Law.....				40			
Wash House Law.....				1			
Occupational Disease Law.....				4			
Health, Safety and Comfort Law.....				6			
Bedding Law.....				2			
Total.....				438			
Total fines.....				\$1,800 00			
Total costs.....				1,912 95			
State of Illinois outside of Cook County.				Number of cases.			
Wash House Law.....				2			
Women's Ten Hour Law.....				26			
Child Labor Law.....				217			
Structural Iron Law.....				1			
Total number of cases.....				246			
Total fines.....				\$1,841 00			
Total costs.....				1,405 35			
				Number of cases.	Fines.	Costs.	Total.
Chicago and Cook County.....				438	\$1,800 00	\$1,912 95	\$3,712 5
State of Illinois outside Cook County.....				246	1,941 00	1,405 35	3,346 35
Total entire State.....				684	\$3,741 00	\$3,318 30	\$7,059 30

CHILDREN'S WORKING CERTIFICATES ISSUED

This table shows that 53,252 Child Labor Certificates were issued in the State during the fiscal year ended June 30, 1920. (N. B.—The number of certificates has no bearing on the number of children employed, as in many cases 2, 3, 4, 5 and in some instances as many as 10 certificates were issued to the same minor.)

There were a few bedding inspections which will be included in next year's report.

**CHILDREN'S WORKING CERTIFICATES ISSUED IN THE STATE OF ILLINOIS FOR
FISCAL YEAR ENDED JUNE 30, 1920**

Towns.	Male.	Female.	Towns.	Male.	Female.
Abingdon.....	10	3	Eureka.....		1
Addison.....	1		Evanston.....	150	37
Albion.....	1	1	Fairfield.....	6	8
Arlington Heights.....	13	9	Fairview.....	1	
Aurora—East.....	216	161	Forest Park.....	53	40
Aurora—West.....	39	22	Forreston.....		3
Batavia.....	4	3	Freeburg.....	2	
Batestown.....	3		Freeport.....	3	2
Beloit—South.....	6	3	Fulton.....		4
Belleville.....	262	34	Galena.....	10	9
Belleville Township.....	50	21	Galva.....	2	
Bellwood.....	17	15	Geneva.....	6	4
Belvidere.....	13	12	Genoa.....	3	2
Berwyn—Dist. 98.....	45	85	Geneseo.....	2	1
Berwyn.....	52	39	Georgetown.....	2	
Bloomington.....	114	70	Germantown.....	1	
Bissell.....	1		Glen Carbon.....		1
Blue Island.....	49	28	Glen Ellyn.....	1	2
Bradley.....	12	17	Granite City.....	60	26
Brookfield.....	18	12	Granville.....	1	
Barrington.....	1		Greenville.....	3	
Bartlett.....	2		Gross Point.....	2	
Bensonville.....	1		Hamilton.....	1	
Bartonville.....		1	Hanover.....	1	
Calumet.....	9	7	Harvard.....	15	9
Canton.....	61	27	Harvey.....	30	15
Carbondale.....	10	6	Havana.....	8	
Carmi.....	5		Hebron.....		1
Casey.....	1	1	Herrin.....	6	1
Catlin.....	1		Herscher.....	2	
Centralia.....	61	12	Highland.....	19	8
Champaign.....	15	5	Highland Park.....	4	
Charleston.....	13	2	High Mount.....	1	
Chatsworth.....		1	Highwood.....		4
Chenoa.....	1		Hawthorne.....	1	
Chicago Heights.....	167	56	Hillsboro.....	28	7
Christopher.....	1		Hinsdale.....		2
Chicago Ridge.....		2	Hoopeston.....	5	2
Cicero.....	285	278	Jacksonville.....	61	33
Clayville.....	1		Jerseyville.....	16	11
Clear Lake.....		1	Joliet.....	151	84
Clinton.....	11	1	Jone-boro.....	1	1
Collett.....	3	1	Junction.....	1	1
Columbia.....		1	Kankakee.....	151	118
Cobden.....		2	Kenilworth.....	1	1
Congress Park.....	2		Kewanee.....	107	42
Crete.....	12	1	Kinmundy.....	1	
Crystal Lake.....	3	3	Knoxville.....	3	
Cuba City.....	2		Lacon.....	5	3
Danville.....	70	14	Ladd.....	2	1
Decatur.....	361	153	LaGrange.....	11	9
Deerfield.....	5		Lake Forest.....	1	1
DeKalb.....	29	27	Lansing.....	1	2
Des Plaines.....	6	4	LaSalle.....	34	9
Divernon.....		1	Laurenceville.....	3	
Dixon.....	42	22	Lewistown.....	6	
Dolton.....	3	5	Libertyville.....	1	1
Dongola.....	1		Lincoln.....	51	29
Downers Grove.....		1	Litchfield.....	4	2
Dundee.....	51	41	Lockport.....	5	3
DuQuoin.....	18	3	Lombard.....	2	1
Earlville.....	1		Lyons.....	56	37
East St. Louis.....	366	113	Macomb.....	13	1
East Benson.....	1		Macon.....	1	
East Moline.....	17	8	Madison.....	15	7
East Peoria.....	11	2	Marion.....	2	
Edwardsville.....	20	17	Maroa.....	2	
Effingham.....	8	13	Marshall.....	1	
Elgin.....	183	136	Mattoon.....	7	4
Elmhurst.....	19	27			
Elmwood.....	1	1			
El Paso.....	2				

**CHILDREN'S WORKING CERTIFICATES ISSUED IN THE STATE OF ILLINOIS FOR
FISCAL YEAR ENDED JUNE 30, 1920--Concluded**

Towns.	Male.	Female.	Towns.	Male.	Female.
Mascoutah.....	2		.....	4	
Mayo.....	1		.....	1	1
Merrill.....	1		.....	
Metropolis.....	10		.....	27	31
McGray.....	2		.....	3	
McKellan.....	7		.....	5	1
Milford.....	6		.....	1	
Moline.....	167		.....	1	
Momence.....	11		.....	5	
Monmouth.....	67		.....		1
Montgomery.....	6		.....		1
Mount Carmel.....	19		.....	1	
Mount Greenwood.....	20		.....	5	8
Mount Morris.....			.....	331	191
Mount Olive.....	7		.....	20	11
Mount Prospect.....	1		.....	46	9
Mount Vernon.....	23		.....	30	6
Mount Sterling.....	1		.....	90	45
Morris.....	69		.....	3	
Mokena.....			.....	21	9
Milton.....	1		.....		1
Mounds.....	1		.....	8	3
Murphysboro.....	11		.....	
			.....	2	13
Naperville.....	14		.....	1	
Niantic.....	2		.....	2	3
Niles Center.....	2		.....	16	6
Nokomis.....	3		.....	
Norris City.....	1		.....	4	
Norwood Park.....	1		.....	2	
North Chicago.....	46		.....	
			.....	13	3
Oak Grove.....			.....	1	
Oak Park.....	112		.....	
Oak Park and River Forest..	62		.....	1	
O'Fallon.....	7		.....	1	
Oglesby.....	3		.....		1
Ottawa.....	20		.....	104	7
			.....	3	1
Paris.....	11		.....	1	
Palatine.....	1		.....	8	4
Palos Park.....	3		.....	6	3
Pekin.....	45		.....		1
Peoria.....	443		.....	3	
Peoria (East).....	21		.....		1
Peru.....	56		.....	13	7
Pinckneyville.....	2		.....	12	1
Plainfield.....	3		.....	3	
Pleasant Hill.....	3		.....	1	
Pontiac.....	34		.....	3	
Princeton.....	2		.....	2	1
Proviso Township.....	66		.....	25	17
			.....	2	1
Quincy.....	312		.....	1	
			.....	1	
Riverdale.....	1		.....	
River Forest.....	21		.....	84	51
River Grove.....			.....	
Riverside.....	13		.....	
Riverton.....	3		.....	24,852	17,490
Robinson.....	3		.....	7,263	3,641
Rochelle.....	1		.....	
Rock Island.....	120		.....	32,116	21,137
Rock Falls.....	10		.....	
Rockford.....	468		.....		53,252
Rock River.....	1		.....	

DIVISION OF INDUSTRIAL COMMISSION OF ILLINOIS

CHARLES S. ANDRUS, *Chairman*

PETER J. ANGSTEN

ROBERT EADIE

JAMES A. CULP

OMER N. CUSTER

The number of compensable accidents reported during the year July 1, 1919, to June 30, 1920, was 38,289 as compared with 38,247 for the previous fiscal period.

While the Industrial Commission is not charged with supervision over safety work, there has been the closest cooperation between the State Factory Inspector's office and this office, and each has rendered the other valuable assistance. The passage of workmen's compensation laws has done, in this as well as in other states, more than any other one thing to increase the interest in safety work, to decrease accidents and to bring about more accurate statistics in regard to accidents. It is much more important to prevent accidents than to compensate injured employees.

The number of applications for adjustment of claims filed during the last year was 7,499, as compared with 5,696 the preceding year, and 3,731 the year before. The increased number of applications may be attributed largely to the fact that employees are becoming better acquainted with their rights under the law and are filing applications when these rights are not, in their opinion, accorded them.

The number of petitions for review filed during the year was 1,977 as compared with 1,365 for the preceding year. The percentage of cases reviewed by the commission was 26 per cent as compared with 24 per cent the preceding year.

The amount of compensation granted by awards of the commission was \$3,762,667.35, as compared with \$2,796,904.86, the previous year. The actual amount of compensation that will be paid on these awards will be considerably less, as the employer has the right within eighteen months after the award, to have the compensation reduced or terminated, if the disability has diminished or ended.

One of the most important amendments to the Workmen's Compensation Act in the last session of the legislature was that to section 26, paragraph C, giving this commission the right to examine into the financial condition and method of settling claims of the various com-

THAT THE COMMISSIONER'S SUPERVISORY POWER AND TO REVIEW THE RECORDS OF ANY COMPANY FOUND TO VIOLATE THE ACT OR TO GO TO THE EXTENT OF REVIEWING CLAIMS. NO ATTEMPT WAS MADE FOR THIS PURPOSE WORK AND WE HAVE BEEN DISAPPOINTED IN TRYING TO GET THE PROVISIONS OF THE ACT ENFORCED. DUE TO A LACK OF DATA WE HAVE, HOWEVER, EXAMINED THE RECORDS OF THE COMPANIES THAT HAVE BEEN MADE PUBLIC FROM THE RESULTS OF THE EXAMINATIONS OF ANY OF THE COMPANIES BEING SETTLED. THESE SETTLEMENTS HAVE BEEN MADE PUBLIC TO THE COMMISSION. THEIR COMPETITORS MIGHT SEE THIS AS A DISADVANTAGE EVEN THOUGH THE COMPETITORS THEMSELVES HAD NOT BEEN EXAMINED. IT IS OUR POLICY TO PUBLISH THE RESULTS OF THESE EXAMINATIONS AS FAR AS WE ARE ABLE TO OBTAIN THE ENTIRE LIST OF COMPANIES COVERED BY THE WORKMEN'S COMPENSATION INSURANCE IN THIS STATE.

While the commission found much to condemn in the settling of claims on the part of some of the companies we are glad to state that each company promptly met the views of the commission when unfair settlements were pointed out and the result has been to raise the standard of settling claims by the adjusters. A great deal of the trouble encountered was caused by the doctors employed by the insurance companies assuming the role of claim adjuster. The sooner the individual companies realize that doctors should confine themselves to the medical end and leave the claim settlement to the adjuster, it will be better for all concerned.

While some of the companies objected at the start to the vast power given the commission by this amendment, not one company has contended that we have used this power in an unjust or arbitrary manner. We have sought to make the companies see that a fair settlement must be made in every case and the shaving of claims will not be permitted. The broader minded men in the insurance ranks realize that this supervision, in the long run, cannot but help the companies who are living up to the law, inasmuch as unfair settlements will not be permitted by their competitors and all companies will thus stand on an equal basis in the settlement of claims.

We pointed out in our last two annual reports that Illinois was far behind other states having compensation laws in supervising the rates charged by insurance companies and it is to be hoped that a proper regulatory method will be enacted into law in the next session of the legislature. Supervision of rates in conjunction with supervision of claim settlements will limit the companies in competing for business to the single point of service rendered, which is as it should be. No company should be allowed to charge a rate that is too high and consequently gouge the employers of the State, nor should any company be permitted to place the rate too low; and thus endanger its financial condition, with the possibility of insolvency and non-payment of claims.

THE MEDICAL DIVISION

The Medical Division, during the past year, has been used to its full capacity. The plan followed includes several activities.

1. The impartial examination of employees at the request of commissioners, arbitrators and by stipulation between the employer and employee, to determine the exact physical condition of the injured party. The form of stipulation has been changed to conform to the ruling of the Supreme Court whereby the Medical Director does not find a percentage of disability, but simply states the physical condition as existing at the time of the examination. This stipulation is then submitted to the commissioner who, after hearing whatever additional evidence he may wish, and with the medical examination in mind, determines the percentages of loss in each case and enters an award accordingly. This stipulation does not bind either party to abide by the decision of the medical director, but simply waives arbitration and takes a short-cut towards settlement of the case without a long drawn out hearing.

2. The recommendation of special treatment for the correction of disabilities where such treatment will be a benefit.

3. The notification of employers of the success or failure of medical treatment supplied by them, so that they may have some idea as to whether their results can be considered good or bad, from a surgical standpoint. This gives them the opportunity to improve conditions in their surgical departments.

4. Where a number of bad results from a single company or industry come before the Medical Department, to call the attention of the employer to these bad results and go over the situation with him, pointing out where he can make corrections in the treatment or supply additional treatment, such as massage, electro- and hydro-therapy and the like, to bring about better surgical results.

5. To tabulate various kinds of injuries coming before the department and the results obtained in each individual type, with the amount of compensation which should have been paid as against the amount of compensation which was paid; this is done purely from a surgical standpoint and not from a standpoint of law, judgment being based on the amount of disability which occurred and on the award which was given.

6. To trace the individuals having permanent partial disability which did not disable them from doing any kind of work, but which did prevent them from following their past occupations, so that we might have some idea of what was happening to those who were crippled in industry; whether they were complete charges on the State or whether their living conditions were poorer, as good, or better than before they were injured. This last we have been entirely unable to do because of lack of office force and outside workers to check up on cases after they leave the jurisdiction of the commission.

7. The Medical Director and his assistant are publishing every three months, with the permission of the commissioners, a series of Industrial Clinics, in which there is pointed out the advantage of good medical treatment and the disadvantage of poor medical treatment, and the relative cost of each, both from a medical standpoint and from a compensation standpoint. They also indicate where most of the mistakes are made in the treatment of industrial injuries. It is hoped that this will be of benefit to industrial surgeons, employers and employees in obtaining better results.

With these things in mind the Medical Division has been examining an average of ten cases per day, a complete tabulation of which has not been made, but which we hope to have available for the use of the Department of Public Welfare in its cripple survey within a few months.

It seems to the Medical Director that the two most important functions of the Medical Division are: first, the education of the employer, industrial surgeon and the employee to the fact that proper and prompt medical attention is extremely important in obtaining satisfactory results; and, second, that this proper and prompt medical attention cannot be had from men who have not had special training in this line of work. The Medical Division has tried to point out the advantage of securing the opinion of the highest class of medical men early in the case rather than late. In other words, from the standpoint of all concerned, it costs less to keep out of trouble than to get out of it.

The Medical Division, as do the other divisions, needs more room and more help. A laboratory with an assistant would be of great benefit. A combination clerk and statistician to keep records of cases and follow them to determine what is their final disposition in the body politic is also needed.

COURT DECISIONS

During the past year the Supreme Court has decided seventy-six cases involving questions under the Workmen's Compensation Act. The most important case decided during the past year was *Grand Trunk Western Railroad Company v. Industrial Commission et al.*, 291 Illinois 167; 125 N. E. 748. The provision of the Workmen's Compensation Act which brings automatically under section 3 of the act the employer who is engaged in an extra-hazardous occupation or business, was attacked on the ground that it was unconstitutional because it created liability without fault, took the property of the employer without due process of law, denied the right of trial by jury and delegated judicial powers. In a review of the basic principles of this act, the Supreme Court upheld the validity of this section and disposed of all these objections in a decisive manner.

The Supreme Court to some extent enlarged the scope of the act by holding that the rupture of a blood vessel when related to the physical exertion of an employee is an accidental injury within the meaning of

the act. (*Baggott v. Industrial Commission*, 290 Illinois 530; 125 N. E. 534.) The court also held that anthrax poisoning, incurred in the course of employment, was an accidental injury. (*Chicago Rawhide Manufacturing Company v. Industrial Commission*, 291 Illinois 616.) The estate of an employee killed by sunstroke which is admitted to be a disease, if proved to be the result of accident, is held entitled to compensation. (*City of Joliet v. Industrial Commission*, 291 Illinois 555.)

On the other hand, the lines were more strictly drawn against employees who step out of the scope of the employment and engage in work as a volunteer (*Mephram & Company v. Industrial Board*, 289 Illinois 484); (*Adams & Westlake Company v. Industrial Commission* Docket No. 13119); (*Henry v. Industrial Commission* Docket No. 13151).

What the final disposition of the principle of "exposed to the hazard" will be by this court, is difficult to surmise. After the decision in *Brennan v. Industrial Commission*, (289 Illinois 49) it seemed to be the concensus of opinion by the bar that an employee had to be engaged in an extra-hazardous business to come under the act. There is nothing in that opinion which advises the reader under which act the employee was at the time of the accident. In *Pekin Cooperage v. Industrial Commission*, (277 Illinois 53) the employee became entitled to compensation by virtue of the provisions of the act of 1913, which did not have the automatic provision in section 3. In that case the court discussed the New York rule, which held that the business in which the employer was engaged is not the test, but that the employee's right to compensation arises only when he is employed in some line of work enumerated in the statute; that the occupation and the employment of the employee—the nature of the work in which he is engaged—is the test, and the injury must be sustained in connection with and incident to some hazardous occupation in which the employee is engaged. The court said: "In construing the provisions of our Workmen's Compensation Act we have not adopted the construction placed upon the New York act by the courts of that jurisdiction."

A solution however, seems to be in sight. In the case of *Oriental Laundry Company v. Industrial Commission*, (Docket No. 13152) the court, while holding that the particular employee in that case was not exposed to the hazard of the employment, says:

We are not intending to intimate by anything said here under the present law, which brings employers engaged in extra-hazardous occupations automatically under the act, that employees engaged in an occupation entirely independent and separate from the extra-hazardous employment would come within the act.

In the case of *International Coal and Mining Company v. Industrial Commission*, (Docket No. 13083) the Supreme Court in December, 1919, handed down an opinion holding that the employer was entitled to credit only for payments of installments under the act as they accrued. Payments which go beyond this are illegal.

The Supreme Court of the United States, in the case of Knickerbocker Ice Company v. Lillian E. Stewart, heard at the October term, 1919, (No. 543,) decided that the act passed by Congress in October, 1917, which saved and excepted the rights and remedies of workmen under the Workmen's Compensation Laws of any state, in so far as this provision affected maritime torts, was unconstitutional.

The effect of this decision on employees engaged on any ship plying on a navigable stream is apparent. It requires a Federal Workmen's Compensation Act to provide for compensation for accidental injuries arising out of and in the course of the employment of such employee.

During the past year, the commission has been instrumental in enforcing the provisions of section 26, which require employers to take out insurance covering the compensation payable or to satisfy the commission of their financial ability to pay the compensation of the employee. A large number of employers have thus been forced to cover the risk by a policy of insurance.

Fourteen suits for violation of section 26 were commenced in Cook County. In most instances the court was inclined to be lenient on account of the novelty of the law. Where it was shown that the employer had covered a risk by taking out a policy, the suit was ordered dismissed by the court on the payment of costs. There are three such suits pending in down State counties.

On account of the lack of sufficient investigators, it is frequently difficult to ascertain before going to trial whether the employer is one who comes under the act by reason of the automatic provisions of section 3.

The attorney for the commission has been appointed by the judge of the Circuit Court of Cook County, to argue certain cases pending before him in which an employee is without an attorney. During the past year, he has handled twenty-six cases before the judge of the Circuit Court, protecting the rights of the employee and endeavoring to sustain the award of the commission.

The commission's attorney has acted as advisor to attorneys both of employer and employee and has given them the benefit of any knowledge relative to the latest adjudicated decisions by citing them to the cases which he considered in point, making suggestions as to how to handle the hearing before the Circuit Court judge and in preparing orders or in aiding them to get their records in proper shape.

During the year, the commission's attorney prepared the annotations to the Workmen's Compensation Act in a seven hundred page book and distributed copies of the book to the commission and arbitrators.

It should be noted that by the amendment to the Workmen's Compensation Act of July 1, 1919, the judgment of the Circuit Court, reviewing the award of the commission, can only be reviewed by writ of error. If the writ of error is denied no opinion is written and the case

is not reported, although a denial of the writ is an affirmance of the Circuit Court. This accounts for the large increase in reversals of the commission and the Circuit Courts, as shown by the reported cases.

For the purposes of comparisons, we have examined the appeals in the various Appellate Courts in matters relating to master and servant from December, 1911, to December, 1912. The number of appeals in that kind of cases during that period of time was 127. Comparing this with the number of appeals prayed to the Supreme Court during the past year on questions involving the Workmen's Compensation Act, which numbered 66, it may be concluded that the act is accomplishing what was predicted for it.

LABOR DISPUTES

In the settlement of labor disputes, the mediators have had an extremely busy year. Appended to this report is a detailed statement of the controversies handled and steps taken. Such detailed report is too long to be contained in the printed report.

The number of controversies handled by the mediators during the year has been 125. Hardly a day has elapsed that they have not been engaged in trying to adjust some controversy. It has been our theory that the less publicity there is connected with labor controversies as far as the work of the mediators is concerned, the better is their success. Many controversies have been settled of which the public knows nothing, and in many cases the parties to the controversy and other parties who have assisted in bringing about a settlement do not desire publicity.

We realize that it is much more important to prevent strikes than to settle them after they have started. Mayors and public officials have assisted us greatly in giving us notice of threatened labor troubles. Upon receiving notice of threatened trouble, the mediators do not wait for an invitation but take up the matter at once and endeavor to avert a strike.

The time taken in the different controversies has varied from a few hours to two months. One controversy lasted for this latter period and was finally adjusted without a strike taking place.

The number of actual strikes handled was 75. In 48 of these the strikes were settled after a very short duration, others after a longer duration, and some were never settled. During the steel strike and other strikes the mediators kept in close touch with the situation, were frequently on the ground, and assisted in preventing trouble.

ANALYSIS OF CASES SUBMITTED TO MEDICAL DIRECTOR DURING YEAR JULY 1, 1919-JULY 1, 1920

Referred by commissioners.....	159
Referred by arbitrators.....	329
Stipulation	608
Referred by secretary, chief examiner or security supervisor.....	97
Other states	8
	<hr/> 1,201

TRAUMATIC CLASSIFICATION OF INJURIES

Fractures	562
Dislocation	41
Sprains and strains.....	59
Cuts, punctures, lacerations.....	232
Bruises, contusions and abrasions.....	121
Concussions	7
Burns	15
Crushing injury	31
Amputations	104
Hernia	29
Infection	18
Miscellaneous	94
	<hr/>
	1,313

ANATOMICAL CLASSIFICATION OF INJURIES

1. Joints and Ligaments—	2. Bones—
Jaw 8	Skull 16
Vertebrae 19	Face 7
Sacro-iliac 32	Vertebrae 54
Sterno-clavicular 2	Sacrum 4
Acromio-clavicular 1	Coccyx 5
Shoulder (sub-deltoid bursa) 6	Ribs 6
Elbow 30	Sternum 2
Wrist 16	Clavicle 15
Hand 41	Scapula 3
Ribs 6	Humerus 91
Hip 32	Radius 73
Knee 24	Ulna 65
Ankle 16	Wrist 14
Foot 5	Metacarpal 28
	Hand (phalanges)..... 83
	Ilium 7
	Ischium 1
	Pubis 2
	Femur 54
	Patella 9
	Tibia 51
	Fibula 106
	Foot—(Ankle) 38
	Metatarsal 14
	Foot (phalanges)..... 17

Report of
THE DEPARTMENT OF MINES AND
MINERALS

July 1, 1919, to June 30, 1920

STATE OF ILLINOIS

THE DEPARTMENT OF MINES AND MINERALS

MARTIN BOLT, *Acting Director*

MINE OFFICERS

WILLIAM HUTTON, Duquoin; PETER JOYCE, Springfield; M. S. COLEMAN, Harrisburg; JAMES NEEDHAM, 347 Railway Exchange, Chicago

DIVISION OF INSPECTION

WALTER A. WAITE, Springvalley; WILLIAM E. KIDD, Peoria; THOMAS P. BACK, Canton; ROBERT BACK, Springfield; JOSEPH HASKINS, Catlin; JOHN MILLHOUSE, Litchfield; W. L. MORGAN, Marion; JAMES R. RICHARDS, Belleville; FRANK ROSBOTTOM, Duquoin; JOHN O'ROURKE, Benton; GEORGE BAGWILL, Harrisburg; HENRY D. THOMPSON, Collinsville; RICHARD NEESON, Springfield

DIVISION OF MINERS' EXAMINATIONS

WILLIAM HALL, *President*, Springfield; JOHN A. TUTTLE, *Secretary*, Harrisburg; WILLIAM H. TURNER, Collinsville; JOSEPH C. VIANO, Coal City

DIVISION OF MINE RESCUE AND FIRST AID

SUPERINTENDENTS OF STATIONS

ALEXANDER SKELTON, LaSalle; THOMAS ENGLISH, Springfield; JAMES ROBERTSON, Duquoin; JAMES WEIR, Benton; THOMAS ROGERS, Herrin; FRANK PATTERSON, Harrisburg

DIVISION OF ECONOMIC INVESTIGATION

JAMES TAYLOR, *Investigator*, Peoria

GENERAL OFFICE

MARTIN BOLT, *Acting Director*

The third annual report of the Department of Mines and Minerals shows no radical changes in the method of taking care of the business of the department.

During the year the department sustained a very great loss in the death of the Director, the Honorable Joseph C. Thompson, who died, after a brief illness, on April 12, 1920. He served as Director of the Department of Mines and Minerals for approximately sixteen months, and through a very trying period. Everything he did was done with a desire to do it well.

During the period covered by this report occurred the strike of the coal miners of the country which completely closed every shipping mine of the State and a large number of the local or wagon mines and almost stopped the production of coal in Illinois.

The department through the Director and his advisors, the State Mining Board, has labored consistently at all times to bring about a better understanding between the coal operators and miners and has endeavored to enforce the laws with uniformity, keeping in mind the safety of the men employed in the mines.

Through the various divisions the department has sought to reduce the number of accidents in and around the mines by the enforcement of the provisions of the mining law, also by instructing the workers in mine rescue and first aid methods. In this work we have had the generous cooperation of the Federal Bureau of Mines with whom we have arranged a plan of cooperation which has been of advantage to the mining interests of the State and which we trust will be continued for the mutual good of all parties involved.

The close cooperation of all divisions of the Department of Mines and Minerals has made it possible to accomplish much that could not have been realized under the system in operation prior to the enactment of the code law, and much can be done in the future along the lines that have been established to the end that the mines of Illinois may be made as safe and sanitary as any mines in our country or the world.

At the annual meeting of the American Mining Congress which was held in St. Louis, Missouri, in the fall of 1919, the Department of Mines and Minerals arranged an exhibit of the mineral resources of the State, in which they were assisted by the Division of Geological Survey and the Division of State Museum.

The exhibit was one of the most attractive at the congress and was visited by large numbers of people.

The work accomplished by the Department of Mines and Minerals has been possible, because of the spirit of cooperation that prevails in all of its divisions.

DIVISION OF INSPECTION

The Division of Mine Inspection has found its work very much increased during the year ending June 30, 1920, the period covered by this report.

On July 1, 1920, an additional inspector was appointed, whose duties are to take care of complaints of an extraordinary character arising in the various districts of the State and to serve as regular inspector during the illness of inspectors, and also to serve during vacations of the regular men in any district of the State.

This plan has proven satisfactory, and will be improved as time goes by.

The annual report of the Department of Mines and Minerals contains the detailed report of the various districts of the State and reflects more fully the great mass of work the Division of Inspection is called upon to perform. The following will show briefly the work done by the State Mine Inspectors during the year, and is taken from the records of the General Office:

Number of inspections of mines.....	1,399
Number of days worked inspecting mines.....	1,575
Number of days worked at other duties such as investigating accidents, testing scales, investigating complaints, office work and other miscellaneous services	1,935
Total days worked.....	3,510

The following table gives a summary of the specific work done by the State Inspectors during the year and shows what per cent of the time was spent in the various duties of their office as well as the number of days worked:

SUMMARY OF SPECIFIC WORK REPORT FOR FISCAL YEAR ENDED JUNE 30, 1920

District.	Inspecting mines.						Other classified duties—days worked.							Miscellaneous services.		Total days.
	Shipping.		Local.		Total.		Investigating accidents.	Testing scales.	Investigating complaints.	Office work.	Traveling.	Total days in other classified duties.	Per cent of time in other classified duties.	Days worked.	Per cent of time.	
	Number inspected.	Days worked.	Number inspected.	Days worked.	Number inspected.	Days worked.										
First.....	57	90	58	52	115	142	3	8	12	46	30	99	35.36	39	13.93	280
Second.....	82	99	65	51	147	150	5	7	16	52	9	89	29.57	62	20.60	301
Third.....	135	142½	144	48½	279	191	5	4	14	10	17	50	17.54	44	15.44	285
Fourth.....	86	150	64	45	150	195	5	24	21	15	10	75	24.67	34	11.19	304
Fifth.....	83	92	28	17	111	109	10	4	38	38	38	128	43.24	59	19.94	296
Sixth.....	61	115	4	4	65	119	25	13	40	26	16	120	41.10	53	18.15	292
Seventh.....	55	87	9	8	64	95	13	6	42	49	16	126	46.84	48	17.84	269
Eighth.....	91	93	19	16	91	93	---	35	46	67	8	156	50.65	59	19.16	308
Ninth.....	111	125	19	16	130	141	12	16	54	17	37	136	44.74	27	8.88	304
Tenth.....	55	124	39	21	55	124	24	24	50	20	15	133	43.89	46	15.18	303
Eleventh.....	75	105	9	24	114	126	11	24	29	20	20	104	34.78	69	23.08	299
Twelfth.....	69	87½	9	24	78	90	19	21	38	34	18	130	48.33	49	18.21	269
Total.....	960	1,310	439	265	1,399	1,575	132	186	400	394	234	1,346	38.35	589	16.78	3,510

DIVISION OF MINERS EXAMINATION

WILLIAM HALL, *President*
 JOHN A. TUTTLE, *Secretary*
 JOSEPH C. VIANO
 W. H. TURNER

In conformity with the requirements of the law, the Miners Examining Board herewith submits the following report for the year ending June 30, 1920:

During the period covered by this report it has been found necessary to cancel four certificates that had been issued by the board, for various causes. It is often necessary for the board to make investigations on complaints that have been submitted, charging persons with violations of the law under which the board operates, and in all cases where the findings warrant, the certificate of the person so charged is cancelled.

The investigations thus required, necessitate the time of one or more of the members of the board and are a source of trouble and expense, but must be taken care of so that the spirit of the law can be enforced.

The following table shows dates and places where examinations were held during the year, the number of applicants who registered, the number of certificates issued, the number of persons rejected and the amount of revenue collected:

Date.	Place of meeting.	Number of applicants.	Certificates issued.	Number rejected.	Revenue collected.
1919					
July	7 Duquoin.....	35	33	2	\$ 66
	8 Herrin.....	76	59	17	118
	9 West Frankfort.....	29	23	6	46
	10 Harrisburg.....	18	15	3	30
	11 Christopher.....	21	15	6	30
	12 Collinsville.....	30	26	4	52
	14 Staunton.....	28	21	7	42
	15 Hillsboro.....	13	11	2	22
	16 Springfield.....	43	31	12	62
	18 Danville.....	9	7	2	14
	19 Peoria.....	7	6	1	12
	21 Canton.....	10	7	3	14
Aug.	5 Duquoin.....	47	43	4	86
	6 Herrin.....	87	72	15	144
	7 West Frankfort.....	50	35	15	70
	8 Harrisburg.....	47	40	7	80
	9 Christopher.....	19	15	4	30
	11 Belleville.....	49	45	4	90
	12 Gillespie.....	29	28	1	56
	13 Springfield.....	34	28	6	56
	15 Taylorville.....	21	18	3	36
	16 Danville.....	14	10	4	20
	18 LaSalle.....	23	18	5	36
	19 Peoria.....	17	11	6	22

Date.	Place of meeting.	Number of applicants.	Certificates issued.	Number rejected.	Revenue collected.
1919					
Sept.	8 Marion	68	59	9	\$118
	9 Benton	68	56	12	112
	10 Harrisburg	94	78	16	156
	11 Christopher	27	23	4	46
	12 Duquoin	54	46	8	92
	13 Collinsville	21	20	1	40
	15 Staunton	43	36	7	72
	16 Springfield	54	49	5	98
	17 Pana	14	12	2	24
	18 Danville	35	30	5	60
	19 Canton	16	9	7	18
	20 Peoria	17	15	2	30
	23 Springfield	6	6		12
Oct.	4 Carlinville	21	20	1	40
	7 Duquoin	31	22	9	44
	8 Herrin	109	93	16	186
	9 West Frankfort	87	56	31	112
	10 Harrisburg	60	49	11	98
	11 Christopher	32	21	11	42
	13 Belleville	67	59	8	118
	14 Staunton	48	30	18	60
	15 Nokomis	13	13		26
	16 Springfield	63	46	17	92
	18 Danville	39	28	11	56
	20 LaSalle	19	14	5	28
	21 Peoria	23	17	6	34
	23 Rushville	11	11		22
Nov.	5 Duquoin	27	24	3	48
	6 Herrin	49	41	8	82
	7 West Frankfort	31	22	9	44
	8 Harrisburg	40	33	7	66
	10 Christopher	27	22	5	44
	11 Collinsville	36	29	7	58
	12 Gillespie	38	31	7	62
	13 Springfield	39	36	3	72
	14 Danville	12	6	6	12
	15 Canton	38	35	3	70
	17 Peoria	12	9	3	8
	18 Matherville	18	18		36
Dec.	2 Percy	11	11		22
	3 Herrin	16	14	2	28
	4 West Frankfort	25	17	8	34
	5 Harrisburg	7	6	1	12
	6 Duquoin	7	6	1	12
	11 Belleville	55	52	3	104
	12 Staunton	41	27	14	54
	13 Springfield	35	18	17	36
	15 Danville	12	9	3	18
	17 LaSalle	10	6	4	12
	18 Peoria	27	21	6	42
	19 Toluca	9	7	2	14
1920					
Jan.	6 Herrin	138	121	17	242
	7 West Frankfort	63	48	15	96
	8 Harrisburg	103	74	29	148
	9 Duquoin	63	48	15	96
	10 Centralia	50	47	3	94
	12 Collinsville	106	94	12	188
	13 Staunton	47	34	13	68
	14 Springfield	88	68	20	136
	16 Pana	50	37	13	74
	17 Danville	66	42	24	84
	19 Canton	52	32	20	64
	20 Peoria	30	26	4	52
Feb.	3 Herrin	131	104	27	208
	4 West Frankfort	82	54	28	108
	5 Harrisburg	75	64	11	128
	6 Duquoin	58	47	11	94
	7 Belleville	113	106	7	212
	9 Staunton	41	34	7	68
	10 Virden	30	28	2	56
	14 Springfield	79	57	22	114
	16 Taylorville	31	28	3	56
	17 Danville	39	34	5	68
	18 Peoria	19	17	2	34
	19 LaSalle	26	20	6	40

Date.	Place of meeting.	Number of applicants.	Certificates issued.	Number rejected.	Revenue collected.
1920					
March	3 Duquoin	52	42	10	\$ 84
	4 Herrin	134	104	30	208
	5 West Frankfort	78	68	10	136
	5 Percy	76	76		152
	6 Harrisburg	80	65	15	130
	8 Collinsville	44	42	2	84
	9 Gillespie	42	32	10	64
	10 Nokomis	46	39	7	78
	11 Springfield	63	51	12	102
	13 Taylorville	7	5	2	10
	15 Danville	25	15	10	30
	16 Canton	46	40	6	80
	17 Peoria	18	16	2	32
April	7 Sesser	38	23	15	46
	7 Duquoin	38	34	4	68
	8 Herrin	130	99	31	198
	9 West Frankfort	102	83	19	166
	10 Harrisburg	66	43	23	86
	15 Belleville	96	89	7	178
	16 Staunton	46	27	19	54
	17 Carlinville	18	18		36
	19 Springfield	56	43	13	86
	21 Pana	29	25	4	50
	22 Danville	26	19	7	38
	23 Peoria	19	18	1	36
	24 LaSalle	16	16		32
May	5 Duquoin	55	40	15	80
	6 Benton	84	59	25	118
	7 Marion	64	58	6	116
	8 Harrisburg	36	28	8	56
	12 Collinsville	20	16	4	32
	13 Staunton	33	20	13	40
	14 Virden	13	13		26
	15 Springfield	41	28	13	56
	17 Danville	19	15	4	30
	18 Canton	33	25	8	50
	19 Peoria	16	15	1	30
	20 Toluca	10	10		20
June	1 Percy	19	18	1	36
	2 Duquoin	49	46	3	92
	3 Herrin	113	99	14	198
	4 Frankfort	67	46	21	92
	5 Harrisburg	40	37	3	74
	14 Belleville	40	35	5	70
	15 Staunton	71	50	21	100
	16 Springfield	85	72	13	144
	18 Taylorville	33	31	2	62
	19 Danville	46	34	12	68
	21 Peoria	38	34	4	68
	22 LaSalle	25	23	2	46

Total number of candidates examined..... 6,403

Total number of candidates rejected..... 1,120

Total number of certificates issued..... 5,283

Revenue collected \$10,566

Rejections classified as follows:

Lack of evidence..... 847

Lack of English..... 124

Failing to qualify..... 110

Less than 2 years at face..... 39

Total rejections 1,120

Number of men claiming to have lost certificates by fire, theft, etc..... 475

Number of certificates issued to miners' sons under 21 years of age..... 761

DIVISION OF MINE RESCUE AND FIRST AID

MARTIN BOLT, Acting Director

The following is the third annual report of the Division of Mine Rescue and First Aid, and is for the year ending June 30, 1920.

The Mine Rescue Station teams at the various places have responded to the following calls:

On Sunday, May 30, 1920, the LaSalle team was called to the Carus Chemical Works at LaSalle, on account of acid tank leaking.

On August 25, 1919, the Herrin team received a call to the C. W. & F. Coal Company mine B at 10:30 p. m. As they were unable to get at the seat of fire, it was decided to seal it. The team returned to the station at 6 o'clock the next morning.

On January 29, 1920, the Herrin team received a call from the Searle Coal Company at Johnston City at 7:10 p. m. to assist at the McClintock mine, where one man lost his life in an explosion. The team returned to the station at 6 o'clock the next morning.

On April 9, 1920, the Herrin team received a call from the Carterville Big Muddy Coal Company, Cambria, requesting a pulmotor for a man who had been electrocuted. After using the pulmotor for 80 minutes the man was pronounced dead.

On August 22, 1919, the Duquoin team was called to a fire at the Majestic mine. As the room was falling in the fire was sealed up.

On October 5, 1919, the Duquoin team was called to the Majestic mine to remove the seal.

On July 12, 1919, the Benton Team was called to By-Products Company's mine No. 18 to open seals.

On July 24, 1919, the Benton team was called to Benton Coal Mining Company's No. 2 mine on account of fire. The fire was extinguished by chemicals before much damage was done.

On September 29, 1919, at 2 a. m. a call was received by the Benton team from the Benton Coal Mining Company on account of fire at some part of their No. 2 mine. As it was impossible to get close enough to fight the fire, that part of the mine was sealed off.

On October 10 the Benton team received a call from the Benton Coal Mining Company to take out seals at their No. 2 mine which were erected on September 29. As there was no trace of any fire at this time the seals were removed.

On January 25, 1920, the Benton team received a call from the Benton Coal Mining Company on account of fire existing some place in the old workings of their No. 1 mine.

On July 26, 1919, the Harrisburg team was called to the Grayson mine of the Saline Coal Company to open up seals.

On December 14, 1919, the Harrisburg Colliery Company called the Harrisburg team to the Harco mine to open up the seals at that mine.

CERTIFICATES ISSUED

During the year 906 certificates have been issued as follows:

Five hundred and thirty-five first-aid certificates to miners; 272 to miners completing the mine rescue work; 99 to women, boy and girl students completing the first-aid course.

Badges have been given to 72 boys under the age of 16 completing the first-aid course.

The station staff is as follows:

Alex Skelton, Superintendent, Mine Rescue Station, LaSalle.

Thomas English, Superintendent, Mine Rescue Station, Springfield.

James Weir, Superintendent, Mine Rescue Station, Benton.

Thomas Rogers, Superintendent, Mine Rescue Station, Herrin.

James Robertson, Superintendent, Mine Rescue Station, Duquoin.

Frank Patterson, Superintendent, Mine Rescue Station, Harrisburg.

Each of the six stations has a local team consisting of five miners, who have passed a physical examination. These teams practice mine rescue work two hours each week. It is very essential that all persons wearing the mine rescue apparatus should be physically fit, and should be well acquainted with the mechanism of the apparatus, hence the necessity for the constant practice and study, in case they should be called upon to wear the apparatus after a fire or explosion at a mine.

The result of the first-aid work in Illinois is very commendable. It has been carried on throughout the State during the last year very extensively, and a great deal of money has been expended by the different coal companies in furthering this work. It has a tendency to make the men more careful in their daily work, thus reducing the number of accidents.

The Federal Bureau of Mines has cooperated with the Department of Mines and Minerals, through the Division of Mine Rescue and First Aid by sending one of their cars into the State to train men in mine rescue and first-aid work, and also by sending their representatives to assist in the district and State first-aid contests.

FIRST-AID CONTESTS

Several district contests were held throughout the State and on September 5, 1919, the State contest was held in the State Armory in which 22 teams from all parts of the State competed for the prizes given. The three teams making the best rating were sent to the National Contest at Pittsburg.

Much interest is being manifested in the work of first aid by many of the larger coal companies of the State and the work of the Division

of Mine Rescue and First Aid is increasing. The demand for assistance in the training of classes has made it necessary to employ men temporarily at stations several times during the year.

Men who are given the first aid training at one of the Mine Rescue Stations are able to render valuable service in case of accidents, and must necessarily be better employees.

DIVISION OF ECONOMIC INVESTIGATION

JAMES TAYLOR, *Investigator*

We wish to submit herewith a brief statement of the work of the Division of Economic Investigation. The division made a separate report for the year ending June 30, 1919, showing in detail the facts as to production, etc., of the minerals of this State other than coal. The annual report of the Department of Mines and Minerals will contain the report of the Division of Economic Investigation for the year ending June 30, 1920.

The work of the division has gone forward along the same plan as laid down in former reports, and has been along the lines of inspection and investigation with due consideration to safety of operation, so that accidents to workers might be reduced to the minimum.

The Division of Economic Investigation will continue to make careful inspections of the mines producing mineral products, and offer suggestions along lines of safety and economy, so that the resources of the State may be conserved and the lives and health of the workers engaged in this class of labor may be protected.

There is a great need for legislation in our State covering the drilling of oil and gas wells in territories known to contain workable seams of coal, so that the oil and gas can be procured for the benefit of the people of our State without making it impossible to mine the coal in these territories, because the proper methods have not been followed in drilling the oil or gas wells.

The investigations that have been conducted by this division have covered all classes of minerals other than coal, and we find that approximately 70 per cent of the counties of this State produce oil, gas or minerals of some kind.

Report of
THE DEPARTMENT OF PUBLIC WORKS
AND BUILDINGS

From July 1, 1919, to June 30, 1920

STATE OF ILLINOIS
THE DEPARTMENT OF PUBLIC WORKS AND BUILDINGS

FRANK I. BENNETT, *Director*
THOMAS G. VENNUM, *Assistant Director*

ADVISORY BOARDS

CENTENNIAL BUILDING COMMISSION

FRANK O. LOWDEN	LOUIS L. EMMERSON	DAVID E. SHANAHAN
THOMAS RINAKER	EDWARD W. PAYNE	W. B. MCHENRY
JOHN G. OGLESBY		

HIGHWAY ADVISORY BOARD

HOMER J. TICE	WILLIAM G. EDENS	J. N. PAGE
A. R. HALL		

BOARD OF WATER RESOURCE ADVISORS

E. S. CONWAY	JOY MORTON	J. T. PIRIE
CHARLES B. FOX	GEORGE T. PAGE	

BOARD OF ART ADVISORS

MARTIN ROCHE	HUGH S. MAGILL	LORADO TAFT
RALPH CLARKSON	FREDERIO C. BARTLETT	MARTIN A. RYERSON
IRVING K. POND	ALBION POLASEK	

BOARD OF PARKS AND BUILDINGS ADVISORS

C. L. HUTCHINSON	FRANK E. DAVIDSON	GEORGE W. MAHER
JULIUS HAGELER	S. R. LEWIS	

DIVISIONS

HIGHWAYS

S. E. BRADT, *Superintendent of Highways*
CLIFFORD OLDER, *Chief Highway Engineer*

ARCHITECTURE

EDGAR MARTIN, *Supervising Architect*

ENGINEERING

FRED J. POSTEL, *Supervising Engineer*

WATERWAYS

WILLIAM L. SACKETT, *Superintendent*

PRINTING

H. L. WILLIAMSON, *Superintendent*

PURCHASES AND SUPPLIES

H. H. KOHN, *Superintendent*

PARKS

FRANK D. LOWMAN, *Superintendent*

DEPARTMENT OF PUBLIC WORKS AND BUILDINGS

FRANK I. BENNETT, *Director*

The Department of Public Works and Buildings with its seven divisions, Architecture, Engineering, Highways, Parks, Printing, Purchases and Supplies, and Waterways, has more than justified its creation and establishment and has proven the wisdom of its creators. Embracing in the scope of its functions and work almost all of the construction and commercial activities of the State, as well as many others, although confronted and handicapped by abnormal conditions, inflated prices of both labor and commodities and demoralized railroad transportation, it has again demonstrated its inestimable value to the State. To make a brief summary of the activities of this great department is difficult. For details, reference should be had to the records and reports of the respective Superintendents of the divisions. Taking up the divisions in their alphabetical order the record shows:

The Division of Architecture has brought the buildings of the State from a condition of dilapidation to one of comparatively good repair and fully in keeping with the available funds appropriated; has prepared and supervised plans for many new buildings in conformity with a comprehensive program, keeping constantly in mind the benefits to be derived by the adoption of typical units, insuring economy of construction, stability, minimum fire hazard, minimum future repairs, dignified and architecturally correct and pleasing elevations and groupings, and the use of the labor of inmates in their construction as far as practical. It has awarded contracts for and completed or partially completed a number of new buildings. Outstanding among these is the Centennial Memorial Building, which has progressed in a very satisfactory manner except during the period of the stone quarry strike which delayed the delivery of stone for many weeks. On account of the continuing unfavorable building situation it was considered inadvisable to let many of the contracts until the fall of 1920, but by the end of this year contracts to the extent of the available appropriations will have been made.

The Division of Engineering has taken care of the plumbing, sewer, mechanical and sanitary repairs to old buildings and has given diligent attention to the water supply of the various institutions, a very trying problem and one that often arises suddenly and unexpectedly. Water failure at an institution housing thousands of helpless inmates is always a startling matter to the official upon whom the responsibility rests. This division has met these emergencies in a very competent manner and

has applied the remedy promptly. The water supply at several of the institutions will have to be given early attention, and adequate appropriations will have to be made therefor. The installation of modern heating plants and the proper testing and recording of the consumption of coal and waste of heat has had the intelligent attention of this division, with the proven result that very large economies will follow the installation of these devices at all of the institutions. Those which are equipped stand out plainly on the side of saving.

The work of this division in the matter of counselling and co-operating with the engineers of the various institutions with respect to the operation and maintenance of their plants and machinery has been carried on with very beneficial results.

In addition to the work on repairs and maintenance of old buildings, plants and equipment, this division has made plans for the plumbing, heating and ventilating of most of the new buildings; has let contracts and supervised this work, including that of the Centennial Memorial Building.

The Division of Highways is making a remarkable showing in the face of almost insurmountable conditions, and has finished over two hundred and fifty miles of first-class durable hard-surfaced roads during the year. The construction of the equivalent of a road from Chicago nearly to St. Louis in six months' working time is indeed no mean achievement. The road-building year is limited to the period from June to the middle of November at best. Remarkable as this achievement is, the Division of Highways is not satisfied with the progress made, as it had planned to do three times this mileage per year and prepared accordingly, and the people have expected faster progress. It is, therefore, meet and proper that record should be made of the difficulties and interferences encountered and the reasons why more roads have not been built—not by way of apology or excuse, for this division has been alert by day and by night in the execution of its task, but in explanation of the impossibility of doing better.

A year ago when the contractors were just getting nicely started on the 500 miles of Federal Aid Roads under the 1919 contracts referred to in previous report of the Superintendent of Highways, car shortage began to become apparent and this shortage rapidly increased and became more serious until as the coal strike approached, the open top cars were almost entirely taken away from service in hauling road materials. The result was an early and unavoidable shutting down of road construction. A careful analysis of the interruptions to the progress of the work in 1919 would probably show that the actual working season of 1919 was not six months, and not over three months of unhampered activity. It became evident early in the summer of 1919 that car shortage and inability to secure sand, gravel and stone in sufficient quantities would be the limiting factors in an extensive road-building program, and accord-

ingly steps were taken early in August to investigate these difficulties and, if possible, to make plans to overcome them. Conferences with leading railroad officials developed the fact that shortage of cars for the conveyance of road-building materials may be expected every year in the future, and that there probably never will be, with absolute certainty, sufficient cars to take care of a large program after August 1 of each year. Investigation of the stone quarries, gravel and sand pits and the production of cement was thoroughly made, and from these investigations it became evident that unless unforeseen demands for these commodities developed, there would be a sufficient supply to meet the State's requirements. There was manifestly, therefore, only one thing to do, namely, to store during the winter and spring months and up to August a sufficient quantity of all of these materials to take care of the period of car shortage.

Arrangements were accordingly made with the contractors to pay the cost of storing cement and also to pay for sand, gravel and stone as rapidly as stored. Many of the contractors made preparations for the storing of materials, when it suddenly developed that the car shortage extended to the winter months as well as the late summer and fall, and it was impossible to secure cars to transport any appreciable amount of road-building material. Railroad strikes of various kinds followed, and as the building season approached the contractors assembled and requested the extension of their contracts for completion in 1921. They were fearful that car and material shortage would be so acute during the season that the interruptions would increase their overhead expense to such an extent as to bankrupt them.

In order to meet this situation Governor Lowden called a meeting of the railroad presidents and a meeting of the material men. At both of these meetings the Governor was assured that the utmost of cooperation would be forthcoming and that the chances were that the situation would be taken care of. Strikes and the effects of former strikes, however, continued to hamper the work. Then the orders of the Interstate Commerce Commission were issued, first limiting the use of cars to 50 per cent of the requirements of stone quarries and sand and gravel pits; next, withdrawing box cars from use in the transportation of cement, and finally, reaching the climax, in the ruling that none of the open top cars could haul road materials except in the direction of the mines. This last order resulted in stopping the work of many of our contractors because the requirement could not be complied with. The Division of Highways in some cases secured special permits only to have them cancelled again when fairly in operation.

There were about one hundred complete road building outfits in the field ready to start when the season opened, but an average of not over fifty could be supplied with the road materials with which to operate.

In the fall of 1919 and the winter of 1920, surveys, locations and plans were made for 1,000 additional miles of road. This mileage coupled with the Federal Aid System would reach 85 per cent of all cities and towns of 5,000 inhabitants or over and, of course, many smaller intervening towns. Bids were opened on a portion of this mileage on two occasions. There was no competition and the prices bid were about 40 per cent above 1919 prices. At that rate, being an average of over \$44,000 per mile, the \$60,000,000 bond issue would build about one-third of the mileage called for in the act. On account of these excessive bids, and as it was apparent that there was certain to be a car shortage, these bids were rejected, and no new contracts were let except for about fifty miles of road to connect the Federal Aid System. Had the State let additional mileage in 1920, probably not an additional mile would have been constructed and there would have been a very great loss in cost over that at which these roads will ultimately be built. None of the state-wide system bonds have been or will be sold in 1920. The cost of the Federal Aid Roads is being paid for out of Federal Aid money and the appropriations of the State from the receipts for automobile and truck licenses. By the end of the season the Lincoln and Dixie Highways will be practically completed and the others well under way.

The survey of roads and their location after public hearings has been carried on almost continuously, and over 40 per cent of the final locations have been determined.

After the close of the war it was thought there would be great surplus of labor, but quite the contrary has happened. There has been a constant shortage of labor throughout the year.

The Division of Parks has done efficient work in restoring to good condition the historic places, parks and sanctuaries of the State and maintaining them.

Douglas Monument Park, the care of which has long been neglected by the State, has been restored to good condition. The monument has been cleaned and repaired and a new fence and keeper's lodge erected.

The powder magazine and foundation walls of Fort Chartres have been restored and put in condition of substantial preservation.

Plans have been made for the protection of the walls at Fort Massac from river floods.

More than usual pains have been taken in the repairs and maintenance of Lincoln Monument. Lincoln Homestead has received careful attention:

The museum building and custodian's quarters at Old Salem are in course of construction and well under way.

The old State Capitol at Vandalia has been taken over, pursuant to the act of the Legislature.

Especial effort has been made to make Starved Rock State Park more attractive, if possible, to the people. Judicious repairs and better-

ments have been made and unusually good hotel accommodations provided. Rentals have been increased to a point where the income exceeds operating expenses, but not permanent improvements.

The Division of Printing has taken care of the public printing in a careful and economical manner and at this time 63 per cent of its appropriation remains unexpended. It has shown foresight and good judgment in the purchase of paper in large quantities and at an advantageous time, resulting in a large saving over present prices.

PURCHASES AND SUPPLIES

The Division of Purchases and Supplies has carried on its duties through a maelstrom of inflated and outrageous prices. With practically no competition offered and no guide as to values, with constantly changing prices, it has managed to care for the needs of the State in food, clothing, fuel and other commodities. That its efforts have saved the State a large sum of money cannot be gainsaid. The same effort and intelligent management in normal times will result in enormous savings to the State.

DIVISION OF WATERWAYS

The Division of Waterways has administered its usual and ordinary activities with care and dispatch. There is a constantly increasing number of complaints of stream pollution and obstruction, and also requests for relief from owners of overflowed lands. The high water of this spring filled the locks on the Illinois River with a deposit of silt and drift, the removal of which caused considerable expense and carried away the dam of the Illinois and Michigan Canal at Channahon, and the difficulty of securing men and material promptly delayed the opening of the canal for several weeks.

The passage and approval of the amended Illinois Waterway Act on June 17, 1919, together with the Appropriations Bill and the act authorizing the issuance of waterway bonds gave to the department full and complete authority to proceed with this important project.

The first essential step in the program was securing the approval by the Secretary of War of the plans for the waterway. Immediate steps were taken by the Division of Waterways toward the preparation of general plans for presentation to the Secretary of War for his approval. The plans were completed and presented together with a request for their approval on July 30, 1919, and on January 20, 1920, the plans were approved, several conferences having been had with the Chief of Engineers concerning the same during the interim. The language of the approval did not entirely meet the views of the State and modifications were asked for, and after another conference in Washington the approval was made on March 6, 1920, in conformity with the request of the State.

The building of this waterway has been advocated for nearly a hundred years. Many preliminary surveys had been made but no working

plans that would fit the construction as now contemplated had been prepared, and it was necessary to make definite surveys and to make borings at the site of the proposed structures. This work was started immediately upon the passage and approval of the amended act, and has been energetically pushed.

A new form of contract has been adopted by the department. This form was conceived by the Chief Engineer of Waterways, and was prepared to meet the present uncertain conditions of labor and cost of materials. It fixes a unit price for both labor and material, and provides that in event of increase in the unit price after execution of the contract, the State shall pay 80 per cent of the increase and the contractor 20 per cent. If, on the other hand, there be a drop in prices the State and the contractor are to share equally in the saving. The Government and other engineers and contractors have evinced much interest in this form of contract, heretofore unknown, and have commended it highly. Unit prices have been fixed as nearly as possible to accord with prevailing prices, and as prices for material and labor have commenced to fall and will continue to do so, the State should benefit very materially by this plan.

Plans and specifications for the lock at Marseilles are completed and plans and specifications for the lock and dam at Starved Rock are nearly finished. It is confidently expected that contracts will be let for one or both of these this fall, and that the actual work of constructing this great and important project will begin before the end of 1920. This enterprise is fraught with many complex problems, and requires constant, careful and thoughtful attention.

DIVISION OF PURCHASES AND SUPPLIES

HENRY H. KOHN, *Superintendent*

Notwithstanding a lapse of two years since the closing of the World War, there is no evidence of any marked reduction in prices of commodities, consequently the ordinary rules of purchasing were not applicable. In June, 1920, trade was still impeded by high rates for capital and slow transportation, and the prospects for early release were rather bad since the railroads were blocked from the seaboard to points three hundred miles west of Chicago, partly through the strike of the dock workers. It is recorded that retail prices of 22 food articles advanced in May 3 per cent over those of April, and 7 per cent above the January record; that most of the declines in prices appear to apply to articles not strictly on the list of necessities, that is to silk, fine clothing and fine shoes. It is claimed that the declines in shoes and leather have been exaggerated. Not so with wool, which is quoted as "unsalable."

The furnishing of coal is still a problem. Many factors tend to work a hardship in supplying the State institutions, such as car supply, government contracts, and failure of production.

We desire to mention that the State institutions are neglecting to requisition for standard packages of supplies under specifications for workshop, machinists, steamfitters, engineers, etc., resulting in lack of competition, making it necessary to readvertise. This increases the cost and does not enable us to live up to the intent of the law, namely to purchase in large quantities and thereby receive attractive prices. Standard and not broken packages should be requisitioned.

The accompanying table gives a comparison of prices paid for necessities, and is self-explanatory. The total purchases for the year amount to approximately \$5,400,000,

PRICES PAID FOR GROCERIES, FLOUR, MEATS, BUTTERINE AND DRY GOODS IN 1919 AND 1920 COMPARED WITH PRICES PAID FOR SAME SUPPLIES IN 1915.

Article.	Measure.	1915, July, August, September.	1919, July, August, September.	1919, October, November, December.	1920, January, February, March.	1920, April, May, June.
GROCERIES.						
Dried fruits—						
Apples.....	Pound	.0672	.1425	.164	.1925	.1525
Apricots.....	Pound	.0625	.2675	.2925	.2875	.2225
Currants.....	Pound	.0735	.2569	.2050	.2037	.1581
Figs, white.....	Pound	.0459	.15	.1545	.1475	.0962
Peaches.....	Pound	.0368	(Bids rej.)	.2087	.2032	.167
Prunes.....	Pound	.0874	.1625	.18	.1727	.14
Raisins, loose muscatel.....	Pound	.0629	.14	.1649	.1899	.2345
Raisins, Cal. seedless.....	Pound	.0648	.1389	.1640	.18625	.2175
Raisins, seeded muscatel.....	Pound	.065	.0949	.144	.1865	.2095

COMPARATIVE PRICES—Continued.

Article.	Measure.	1915, July, August, September.	1919, July, August, September.	1919, October, November, December.	1920, January, February, March.	1920, April, May, June.
Canned goods—						
Apples, No. 10 tins.....	Dozen	2.30	5.25	6.98	6.13	5.00
Cherries, red, No. 10 tins.....	Dozen	6.33	(No bids)	17.50	15.18	17.60
Corn, No. 2 tins.....	Dozen	.6975	1.355	1.37	1.24	1.225
Pears, No. 10 tins.....	Dozen	3.47	7.76	8.65	10.17	6.25
Peas, No. 2 tins.....	Dozen	.665	1.345	1.18	1.32	1.25
Tomatoes, No. 10 tins.....	Dozen	2.18	5.85	6.32	5.69	5.35
Pineapple, sliced, No. 2½.....	Dozen	1.575	(Bids rej.)	4.42	4.32	4.25
Beans, cereals, etc.—						
Beans, lima.....	Pound	.0533	.0851	.1144	.1103	.0998
Beans, navy.....	Pound (bu.)	2.94	.0736	.06	.0655	.0625
Beans, red.....	Pound (bu.)	3.60	.0651	.0671	.0593	.0543
Farina.....	Case	1.25	(Bids rej.)	2.10	2.55	2.19
Rolled oats, 90 lb. bags.....	Pound	.0279	.042	.0436	.0474	.0455
Cornmeal, white.....	Pound	.0189	.0426	.0365	.037	.037825
Cornmeal, yellow.....	Pound	.0189	.04	.0365	.037	.0392
Hominy grits.....	Pound	.02	.0443	.0415	.0389	.0399
Macaroni, broken.....	Pound	.03375	.05½	.0575	.0705	.06
Noodles.....	Pound	.0438	.072	.0874	.0805	.079
Peas, split.....	Pound	.0557	.0646	.0725	.0748	.0625
Potatoes—						
Potatoes (car lots).....	Bushel	.56	1.57	1.39	2.09	3.48
Miscellaneous—						
Apple butter, 30 lb. pails.....	Pound	.0375	.0835	.085	.10	.0950
Cheese, American.....	Pound	.155	.30	.27	.29	.275
Crackers, soda.....	Pound	.0549	.12	.124	.12	.1175
Crackers, oyster.....	Pound	.056	.125	.124	.12	.1175
Crackers, graham.....	Pound	.0675	.14	.1512	.14	.1498
Gingersnaps.....	Pound	.05	.0945	.10	.11½	.11
Mincemeat, in bbls.....	Pound	.035		.082	.0943	.10
Sugar, tea and coffee—						
Sugar, cane (car lots).....	Pound	.0609	.096	.135	.1650	.18
Sugar, beet.....	Pound	.0612	.096	.135	.10956	.18
Sugar C, No. 6.....	Pound	.0540	.09	.1090	.14	.1640
Sugar, powdered.....	Pound	.0646	.1005	.135		.1979
Coffee, roasted.....	Pound	.1375	.33	.32½	.29	.2975
Tea, Japan.....	Pound	.245	.25	.2375	.2450	.235
Flour—						
Flour, hard wheat.....	Barrel	4.77	9.86	9.90	11.36½	10.26½
Flour, soft wheat.....	Barrel	4.60	9.35	9.4975	11.00	10.6175
Butterine—						
Butterine, 2 lb. prints.....	Pound	.117	.2985	.2740	.2665	.2510
Butterine, 60 lb. tubs.....	Pound	.1125	.2985	.2690	.2665	.2450
Meats, fresh—						
Forees, beef.....	Pound	.0891	.097	.095	.1150	.11
Hinds, beef.....	Pound	.1171	.142	.1450	.14	.1850
Hearts, beef.....	Pound	.05875	.067	.08	.0950	.0675
Pork loins.....	Pound	.14625	.342	.23	.2250	.26
Pork shoulders.....	Pound	.11875	.29½	.23	.2050	.21
Liver.....	Pound	.0775	.0615	.06½	.08	.0725
Chucks.....	Pound	.06125	.10	.088	.1025	.1150
Mutton.....	Pound	.10375	.16½	.12½	.18	.2250
Tongue, beef.....	Pound	.16	.38	.35	.30	.34
Meats, cured—						
Bacon.....	Pound	.1498	.36	.2845	.2750	.2750
Corn beef.....	Pound	.0942	.1642	.1298	.1090	.1194
Ham.....	Pound	.14625	.36	.2745	.2490	.3015
Ham, California.....	Pound	.105	.25½	.1722	.1540	.1595
Ham, skinned.....	Pound	.1362	(Bid rej.)	.254	.1540	
Head cheese.....	Pound	.0698	.1075	.1022	.0975	.0970
Lard compound.....	Pound	.0748	.29	.2225	.2350	.2200
Bologna.....	Pound	.0715	.115	.117	.1055	.1035
Frankfurters.....	Pound	.09175	.1325	.1275	.11875	.118
Liver sausage.....	Pound	.0648	.0975	.097	.0910	.09
Pork sausage.....	Pound	.08	.1450	.1592	.13½	.1344
D. S. sides.....	Pound	.1042	.2927	.1998	.1910	.1815

COMPARATIVE PRICES—Concluded.

Article.	Measure.	1915, July, August, September.	1919, July, August, September.	1919, October, November, December.	1920, January, February, March.	1920, April, May, June.
Muslin, bandage 36"	Yard	.0348	.115	.12	.1350	-----
Cotton sheeting, bleached 42"	Yard	.0874	.279	.32	.42½	.42
7-4	Yard	.164	.469	.492	.59	.66
8-4	Yard	.174	.565	.546	.63	.743
9-4	Yard	.1925	.625	.612	.73	.82
10-4	Yard	.2225	.675	.685	-----	.90
Cotton sheeting, unbleached—						
6-4	Yard	.1248	.395	.382	.57	.51
7-4	Yard	.1425	.52	.432	.57	.58
8-4	Yard	.162	.50	.494	.59	.66
9-4	Yard	.21375	.565	.544	.66	.78
Pillow tubing	Yard	.14	.399	.34½*	.577	.56
Gingham, 26"	Yard	.0748	.22	.22½	.27	.30
Percale, 36" white ground	Yard	.064	.215	.23	.27	.317
Shirting, hickory—						
Hamilton stripe	Yard	.084	.284	.294	.34	.40
Denim	Yard	.12	.375	.365	.44	.443
Table cloth, merc. 58"	Yard	.3797	.90	.90	.57½	1.00
Ditto—66"	Yard	.415	1.35	1.35	-----	1.35
Ditto—72"	Yard	.4479	-----	1.50	.85	Rej.
Ditto white linen 72"	Yard	1.00	1.25	2.50	1.50	1.75
Napkins, linen damask	Dozen	2.75	4.00	4.00	3.75	3.375
Toweling, unbleached 15"	Yard	.099	.215	.235	.17½	.287
Crash, bleached 17"	Yard	.1034	.255	.1775	.16	.287
Turkish towels	Dozen	1.34	4.15	5.50	6.25	6.90
Huck towels	Dozen	1.49	2.07½	2.35	3.50	5.00
Wash rags	Dozen	.305	.60	.69	.70	.75

* No bids received for Qr. No. 10 on pillow tubing. Therefore, contract was awarded for "White Star" sheeting in lieu thereof at 34½ cents per yard.

PRICES PAID FOR GROCERIES, FLOUR, MEATS, BUTTERINE AND DRY GOODS.

(Continued on pages 201, 202 and 203.)

Article.	Meas- ure.	1919 quantity purchased Q-No. 10.	1915, July, August, September, Q-No. 1.	1917 July, August, September, Q-No. 1.	1917 October, November, December, Q-No. 2.	1918 January, February, March, Q-No. 3.	1918 April, May, June, Q-No. 4.	1918 July, August, September, Q-No. 5.	1918 October, November, December, Q-No. 6.	1919 January, February, March, Q-No. 7.	1919 April, May, June, Q-No. 8.
GROCERIES.											
Dried fruit—											
Apples.....	Pound	30,100	.0672	.105	.145	.1378	.1497	.1265	.1442	.1295	.1425
Apricots.....	Pound	23,080	.0425	.135	.1364	.1388	.141	.114	.1441	.1425	.1475
Currants.....	Pound	2,525	.0735	.1825	-----	.20	.251	.21	.20	.231	.20
Figs, white.....	Pound	21,310	.0459	.0775	.0825	.091	.1310	.141	.1328	.161	.1425
Peaches.....	Pound	34,840	.0368	.0975	.11625	.104	.1135	.1145	.121	.1325	.1525
Prunes.....	Pound	41,300	.0874	.1025	.1092	.09	.0879	.0924	.1068	.1365	.1065
Raisins, loose muscatel.....	Pound	5,950	.0629	.0819	.08	.071	.181	.081	.1123	.1060	.1125
Raisins, Cal. seedless.....	Pound	20,875	.0448	.0945	.0875	.081	.0905	.091	.1143	.11	.1097
Raisins, seeded muscatel.....	Pound	4,100	.065	.08375	.07625	.0792	.08	.0865	.0988	.1062	.1030
Canned goods—											
Apples, No. 10 tins.....	Dozen	182	2.30	3.69	4.95	4.85	4.45	4.15	5.00	4.50	4.50
Cherries, red, No. 10 tins.....	Dozen	118	6.33	9.58	10.80	-----	10.75	12.00	13.50	11.00	14.88
Corn, No. 2 tins.....	Dozen	533	.6975	1.475	1.121	1.121	1.221	1.85	1.54	1.251	1.251
Pears, No. 10 tins.....	Dozen	176	3.47	4.85	6.70	5.15	4.93	5.75	7.39	7.59	8.00
Peas, No. 2 tins.....	Dozen	538	.665	1.33	1.425	1.231	1.38	1.50	1.47	1.45	1.35
Pineapple, sliced, No. 21.....	Dozen	328	1.575	2.39	2.45	-----	2.29	2.90	3.40	3.35	3.50
Tomatoes, No. 10 tins.....	Dozen	172	2.18	5.95	6.78	6.29	8.51	7.49	6.80	6.25	6.15
Beans, cereals, etc.—											
Beans, lima.....	Pound	50,220	.0533	.13	.14375	.131	.1450	.1332	.1348	.1155	.084
Beans, navy.....	BusHEL	74,840	2.94	8.63	8.56	7.89	7.40	6.45	.101	5.40	4.14
Beans, red.....	BusHEL	36,250	3.60	5.54	6.17	5.49	5.64	5.72	4.47	5.33	4.02
Farina.....	Case	68	1.25	2.25	2.15	2.49	2.40	2.38	2.52	2.29	2.20
Rolled oats, 90 lb. bags.....	Pound	63,330	.0279	.0545	.0488	.057	Bag 5.95	.0507	.051	.0449	.035
Cornmeal, white.....	Pound	44,100	.0189	.056	.0401	.041	.043	.0435	.0435	.0362	.032
Cornmeal, yellow.....	Pound	13,500	.0189	.056	.0401	.039	.0415	.0390	.0405	.0375	.032
Hominy, grits.....	Pound	17,000	.02	.0583	.0443	.052	.0629	.0513	.05	.0389	.0335
Macaroni, broken.....	Pound	38,050	.03375	.0695	.0746	.0736	.0675	.0815	.08	.067	.057
Noodles.....	Pound	8,350	.0438	.0825	.08	.08	.101	.09	.09	.0815	.075
Peas, split.....	Pound	27,925	.0557	.0881	.09	-----	.0687	.0885	.06	.0789	.0655
Potatoes—											
Potatoes, ear lots.....	BusHEL	26,700	.56	1.25	1.28	1.18	.70	1.59	1.44	1.11	1.67

Miscellaneous—										
Apple butter, 30 lb. pails.....	Pound	21,560	.0375	.06	-----	.07	.07½	.085	.09½	.0838
Cheese, American.....	Pound	23,885	.155	.215	.24	.27½	.22	.23½	.3725	.29
Crackers, soda.....	Pound	21,820	.0549	.0958	.105	.10½	.1359	.12	.13½	.1225
Crackers, oyster.....	Pound	1,100	.056	.096	.105	.10½	.136	-----	.1275	.1225
Crackers, graham.....	Pound	5,844	.0675	.0958	.115	.1149	.1349	.1349	.14	.1349
Gingersnaps.....	Pound	1,920	.05	.0775	.085	.0995	.11	.11	.1175	.10
Mince meat in barrels.....	Pound	11,400	.035	-----	.0725	.06½	.06½	-----	.0885	.0723
Sugar, tea and coffee—										
Sugar, cane (in car lots).....	Pound	248,450	.0609	.0867	.0774	.07894	.0781½	-----	.095	.0945
Sugar, beet.....	Pound	42,200	.0612	.0815	.0774	-----	.0780	.0809	.096	.0945
Sugar, C No. 6.....	Pound	36,300	.0540	.07875	.0767	-----	.0737	.0750	.0875	.0775
Sugar, powdered.....	Pound	2,700	.0646	.0897	.09125	-----	.0811	.0869	.10438	.1014
Coffee, roasted.....	Pound	60,400	.1375	.14125	.1375	.13½	.14½	.12½	.2575	.25½
Tea, Japan.....	Pound	9,930	.245	.23875	.2318	.2372	.25½	.28	.28	.215
Flour—										
Flour, hard wheat.....	Barrel	7,764	4.77	10.91½	10.40	10.30	11.10	10.80	10.55	10.30
Flour, soft wheat.....	Barrel	69	4.60	10.58½	10.15	-----	11.00	10.30	10.00	10.52½
Butterine—										
Butterine, 2 lb. prints.....	Pound	146,530	.117	.219	.2262	.2360	.2486	.23	.26½	.2938
Butterine, 60 lb. tubs.....	Pound	12,720	.1125	.212	.2262	.2310	.2486	.22	.26	.2938
Meats, fresh—										
Fores, beef.....	Pound	371,500	.0891	.105	.1275	.1425	.19½	.19½	.1450	.1490
Hinds, beef.....	Pound	114,133	.1171	.145	.15	.15½	.22	.21	.17	.2290
Hearts, beef.....	Pound	55,900	.05875	.09	.115	.12½	.10	.1250	.11½	.0840
Pork loins.....	Pound	18,100	.14625	.2595	.2625	.24½	.28	.28	.26½	.3235
Pork shoulders.....	Pound	21,400	.11875	.206	.2525	.2412	.23	.22½	.22½	.2665
Liver.....	Pound	32,410	.0775	.10	.13	.10½	.09½	.1225	.0985	.075
Chucks.....	Pound	62,375	.06125	.125	.155	.14475	.18½	.2050	.1980	.2025
Mutton.....	Pound	7,000	.10375	.1857	.22	.17	.24	.21	.21½	.2042
Tongue, beef.....	Pound	1,600	.16	.25	.21	.24	.21	.22	.26½	.2434
Meats, cured—										
Bacon.....	Pound	21,120	.1498	.309	.3492	.3290	.339	.36	.40	.3590
Corn beef.....	Pound	25,800	.0942	.1225	.149	.1660	.1790	.1925	.1940	.1890
Ham.....	Pound	20,900	.14625	.22	.2595	.2590	.2790	.28	.30	.3242
Ham, California.....	Pound	600	.105	.1887	.2135	.21	.2090	.21½	.2385	.2390
Ham, skinned.....	Pound	700	.1362	.2290	.254	.2440	.2690	.343	.3280	.3280
Head cheese.....	Pound	6,050	.0698	.1133	.134	.10	.1420	.12½	.1390	.1034
Lard compound.....	Pound	27,750	.0748	.1646	.2185	.2272	.23	.21½	.2262	.23
Bologna.....	Pound	61,450	.0715	.114	.12925	.12½	.1390	.1320	.1290	.1234
Frankfurters.....	Pound	92,015	.09175	.124	.1425	.1440	.1490	.1422	.1415	.1385
Liver sausage.....	Pound	9,900	.0648	.104	.105	.10	.1020	.10	.1065	.0985
Pork sausage.....	Pound	25,165	.06	.134	.1535	.14½	.1590	.16	.1405	.1450
D. S. sides.....	Pound	8,020	.1042	.2244	.204	.25	.2512½	.25875	.2640	.28

COMPARATIVE STATEMENT—Continued.

Article.	Measure.	1919, quantity purchased Q—No. 10.	1915, July, August, September.	1917, July, August, September, Q—No. 1.	1917, October, November, December, Q—No. 2.	1918, January, February, March, Q—No. 3.	1918, April, May, June, Q—No. 4.	1918, July, August, September, Q—No. 5.	1918, October, November, December, Q—No. 6.	1919, January, February, March, Q—No. 7.	1919, April, May, June, Q—No. 8.
Dry goods—											
Muslin, bandage 36"	Yard	1,500	.0348	.06	.06	.07	.10	.314	.30	.0950	.07
Cotton sheeting, bleached 42"	Yard	4,600	.0874	.1847	.214	.24	.284	.314	.30	.2370	.229
7-4	Yard	5,600	.164	.305	.335	.38	.424	.494	.4540	.3970	.344
8-4	Yard	1,000	.174	.3384		.405			.4740		.394
9-4	Yard	2,700	.1925			.4375		.60	.58	.4730	.39
10-4	Yard	100	.2225	.40		.49		.65		.5250	.474
Cotton sheeting, unbleached—											
6-4	Yard	8,200	.1248	.25		.307	.394	.4050	.36	.3040	.277
7-4	Yard	22,500	.1425	.2637		.342	.39	.51	.40	.3430	.3074
8-4	Yard	2,000	.162	.293	.298	.369		.504		.4075	.394
9-4	Yard	2,100	.21375	.3347	.367	.50	.48	.55	.52	.44	.397
Pillow tubing	Yard	7,350	.14	.20	.22	.265	.394	.374	.36	.2891	.28
Gingham 26"	Yard	8,000	.0748	.20	.168	.174	.224		.2170	.184	.164
Percale 36" white ground	Yard	8,750	.064	.155	.145	.16	.219	.25	.26	.18	.1379
Shirting, hickory—											
Hamilton stripe	Yard	11,350	.084	.175	.198	.20	.234	.34	.242		.212
Denim	Yard	26,600	.12	.30	.32	.325	.394	.43	.38	.3250	.2574
Table cloth, mero. 58"	Yard	710	.3797	.868		.375		.624			
Table cloth, mero. 66"	Yard	4 Bolts	.415	.95		.574		.624		.674	
Table cloth, mero. 72"	Yard	545	.4479	.98		.70		.824		1.25	.874
Table cloth, white linen 72"	Yard	450	1.00	1.025			2.25	.95	1.25	1.00	2.25
Napkins, linen damask	Dosen	69	2.75	3.00		2.50		1.20	1.925	3.175	3.50
Toweling, unbleached 15"	Yard	6,550	.099	.1496		.155		.15		.1960	.1960
Crash, bleached 17"	Yard	6,750	.1034	.1697		.18	.15	.214			
Turkish towels	Dosen	24	1.34	2.35		3.50	3.80	4.50	3.25	4.25	3.95
Huck towels	Dosen	26	1.49	2.25		2.25		2.75	2.85	2.50	1.90
Wash rags	Dosen	25	.305	.40				.524	.55	.45	.45

COMPARATIVE STATEMENT—Continued.
(Continued from page 198.)

Articles.	Measure.	1919, July, August, September, Q—No. 9.	1919, October, November, December, Q—No. 10.	1920, January, February, March, Q—No. 11.	1920, April, May, June, Q—No. 12.	1920, July, August, September, Q—No. 13.	1920, October, November, December, Q—No. 14.	Average cost for seven quarters.	Percentage increase		
									Increase.	Decrease.	
GROCERIES.											
Dried fruits—											
Apples.....	Pound	.1425	.164	.1925	.1625	.11	.10	.1477	.....	32
Apricots.....	Pound	.2675	.2675	.2675	.2225	.25	.164	.2303	.....	28
Currants.....	Pound	.2569	.2650	.2037	.1581	.1663	.1510	.2189	.....	34
Figs, white.....	Pound	.15	.1645	.1475	.0902	.104	.0853	.1361	.....	30
Peaches.....	Pound	(Bids rej.)	.2087	.2032	.167	.1860	.165	.1740	.....	5
Prunes.....	Pound	.1825	.18	.1737	.14	.144	.114	.1492	.....	21
Raisins, loose muscatel.....	Pound	.14	.1649	.1899	.2345	(Bids rej.)	.26	.1679	.....	35
Raisins, Cal. seedless.....	Pound	.1399	.1640	.1835	.2175	.25	.334	.1684	.....	27
Raisins, seeded muscatel.....	Pound	.0949	.144	.1665	.2065	.214	.234	.1514	.....	34
Canned goods—											
Apples, No. 10 tins.....	Dozen	5.25	6.96	6.13	5.00	5.50	4.95	5.40	.....	8
Cherries, red, No. 10 tins.....	Dozen	(No bid)	17.50	15.18	17.60	16.35	12.42	16.33	.....	12
Corn, No. 2 tins.....	Dozen	1.345	1.37	1.34	1.234	1.39	1.23	1.306	.....	5
Pears, No. 10 tins.....	Dozen	7.76	8.55	10.17	6.25	9.50	5.85	8.37	.....	29
Pears, No. 2 tins.....	Dozen	1.345	1.16	1.32	1.25	1.394	1.02	1.32	.....	22
Pineapple, sliced, No. 24.....	Dozen	(Bids rej.)	4.42	4.32	4.25	4.99	3.81	4.13	.....	7
Tomatoes, No. 10 tins.....	Dozen	5.85	6.32	5.69	5.35	5.50	4.42	5.87	.....	24
Beans, cereals, etc.—											
Beans, lima.....	Pound	.0651	.1144	.1103	.0906	.0762	.0673	.0979	.....	31
Beans, navy.....	Bushel	.0726	.06	.0655	.0625	.0715	.0518	.0703	.....	25
Beans, red.....	Bushel	.0661	.0671	.0593	.0543	.0606	.0370	.0672	.....	15
Farina.....	Case	(Bids rej.)	2.10	2.55	2.19	2.52	2.49	2.36	.....	5
Rolls oats, 90 lb. bags.....	Pound	.042	.0436	.0474	.0455	.06	.04035	.0455	.....	11
Cornmeal, white.....	Pound	.0426	.0365	.037	.037825	.0425	.024	.0378	.....	24
Cornmeal, yellow.....	Pound	.04	.0365	.037	.0392	.0405	.0261	.0384	.....	24
Hominy grits.....	Pound	.0443	.0416	.0389	.0399	.047	.0289	.0405	.....	26
Macaroni, broken.....	Pound	.054	.0375	.0705	.06	.0725	.07	.0538	.....	11
Noodles.....	Pound	.073	.0674	.0605	.079	.0845	.0625	.0799	.....	4
Pasta, split.....	Pound	.0646	.0726	.0743	.0625	.0676	.0630	.0694	.....	9
Potatoes—											
Potatoes, ear lots.....	Bushel	1.67	1.39	2.09	3.46	3.53	1.09	2.17	.....	49

COMPARATIVE STATEMENT—Concluded.

Articles.	Meas- ure.	1919, July, August, September, Q—No. 9.	1919, October, November, December, Q—No. 10.	1920, January, February, March, Q—No. 11.	1920, April, May, June, Q—No. 12.	1920, July, August, September, Q—No. 13.	1920, October, November, December, Q—No. 14.	Average cost for seven quarters.	Percentage increase		
										Increase.	Decrease.
Miscellaneous—											
Apple butter, 30 lb. pails.	Pound	.0825	.085	.10	.0960	.1267	.09	.0947	—	5	
Cheese, American.	Pound	.30	.27	.29	.275	.25	.253	.3225	—	12	
Crackers, soda.	Pound	.12	.124	.12	.1176	.134	.123	.1236	1	—	
Crackers, oyster	Pound	.125	.124	.12	.1175	.124	.13	.1243	4.6	—	
Crackers, graham.	Pound	.14	.1512	.14	.1496	.164	.16	.1448	10	—	
Gingersnaps	Pound	.0945	.10	.113	.11	.16	.13	.1113	16	—	
Minced meat in barrels.	Pound	—	.082	.0943	.10	.12	.07	.0828	—	24	
Sugar, tea and coffee—											
Sugar, cane (in car lots).	Pound	.096	.135	.1650	.16	.2224	.1123	.1425	—	21	
Sugar, beet.	Pound	.096	.135	.10660	.16	.23	.1123	.1444	—	16.4	
Sugar, C No 6.	Pound	.09	.1050	.14	.1646	.21	.1121	.1495	—	25	
Sugar, powdered.	Pound	.1005	.135	—	.1979	.2569	.1302	.1488	—	12	
Coffee, roasted.	Pound	.33	.223	.29	.2975	.273	.178	.29	—	38	
Tea, Japan.	Pound	.25	.2375	.2450	.225	.2350	.20	.2427	—	17	
Flour—											
Flour, hard wheat.	Barrel	9.86	9.90	11.363	10.263	11.0074	9.33	10.38	—	10.2	
Flour, soft wheat.	Barrel	9.35	9.4975	11.00	10.6175	11.3074	10.16	10.31	—	13	
Butterine—											
Butterine, 2 lb. prints.	Pound	.2985	.2740	.2465	.2510	.2290	.2177	.2682	—	18	
Butterine, 50 lb tube.	Pound	.2985	.2990	.2965	.2460	.22	.2127	.2647	—	19	
Meats, fresh—											
Pork, fresh.	Pound	.097	.095	.1150	.11	.0905	.10	.1182	—	15	
Hind, beef.	Pound	.142	.1450	.14	.1350	.1965	.16	.1721	—	7	
Heart, beef.	Pound	.067	.06	.0650	.0675	.0825	.095	.0844	123	—	
Pork loins.	Pound	.342	.33	.2280	.26	.2920	.25	.2784	—	9	
Pork shoulders.	Pound	.291	.23	.2050	.21	.2320	.21	.2376	—	11	
Liver.	Pound	.0815	.081	.08	.0725	.1135	.12	.0808	48	—	
Chucks.	Pound	.10	.083	.1025	.1150	.1063	.16	.1303	—	23	
Mutton.	Pound	.161	.137	.16	.2250	.1495	.1635	.1609	—	8	
Tongue, beef.	Pound	.33	.35	.30	.34	.4250	.38	.339	9	—	

Meats, cured—									
Bacon.....	Pound	.30	.2945	.2750	.2700	.3115	.30	.3173	5
Corn beef.....	Pound	.1642	.1208	.1090	.1104	.1450			
Ham.....	Pound	.35	.3745	.2400	.3015	.3111	.310		24
Ham, California.....	Pound	.25	.1725	.1640	.1505	.1780	.164		17
Ham, skinned.....	Pound	(Bids rej.)	.264	.1540		.2870	.33		31
Head cheese.....	Pound		.1022	.0875	.0870	.1018	.0870		4
Lard compound.....	Pound	.20	.2225	.2350	.2300	.1980	.1670		28
Bologna.....	Pound	.115	.117	.1055	.1035	.1030	.1055		7
Frankfurters.....	Pound	.1325	.1275	.11875	.118	.1175	.1180		7
Liver sausage.....	Pound	.0675	.097	.0910	.09	.0680	.0675		8
Pork sausage.....	Pound	.1450	.1502	.134	.1344	.1375	.1423		12
D. S. sides.....	Pound	.2227	.1906	.1910	.1815	.1830	.1792		20
Dry goods—									
Muslin, bandage 36".....	Yard	.115	.12	.1350		.165	.114	.1106	1.3
Cotton sheeting, bleached, 42".....	Yard	.379	.32	.424	.42	.44	.30	.3559	10
7-4.....	Yard	.460	.492	.59	.66	.55	.479	.50	4.2
8-4.....	Yard	.565	.646	.63	.743	.62	.528	.583	9.4
9-4.....	Yard	.625	.612	.73	.82	.70	.57	.6214	6.6
10-4.....	Yard	.675	.685		.90	.85	.625	.665	8.77
Cotton sheeting, unbleached—									
6-4.....	Yard	.365	.382	.57	.51	.48	.354*	.417	15
7-4.....	Yard	.52	.432	.57	.50	.55	.394*	.4717	16.4
8-4.....	Yard	.50	.404	.50	.66	.62	.454*	.5230	15.2
9-4.....	Yard	.545	.544	.66	.78	.70	.503*	.583	13
Pillow tubing.....	Yard	.359	.341-1	.577	.56	.644	.392	.428	8
Gingham 26".....	Yard	.23	.224	.27	.30	.294	.225	.2393	6
Percale 36", white ground.....	Yard	.215	.23	.27	.317	.31	.194	.2371	17
Sheeting—									
.....	Yard	.204	.294	.34	.40	.306	.23	.321	31.4
.....	Yard	.375	.365	.44	.443	.412	.259	.3769	31
.....	Yard	.90	.96	.574	1.00	1.35	1.45	.945	
.....	Yard	1.35	1.35		1.35	2.00			
.....	Yard		1.50	.85	(Bids rej.)	1.92	2.625**	1.279	
.....	Yard	1.25	2.50	1.50	1.75	3.50	2.35	1.95	
.....	Dosen	4.00	4.00	3.75	3.375	5.00	3.50	3.83	8
.....	Yard	.215	.235	.174	.287	.20	.27***	.215	
.....	Yard	.265	.1775	.16	.287	.255	.26***	.2369	
.....	Dosen	4.15	5.50	.6.25	.9.90	7.25	4.50	5.46	17
.....	Dosen	2.074	2.35	3.50	5.00	3.05	2.38	2.91	14
.....	Dosen	.60	.69	.70	.73	.975	1.00	.659	

! No bids received Qr. No. 10 for 1
 * Bids rejected Q. No. 14, Data 1
 ** Best quality purchased Lower
 *** Stevens A crash purchased Q. No. 14.

1. Therefore, contract was awarded for "White Star" sheeting in lieu thereof at 34½c yard.
 nitted for unbleached sheeting.
 .14.)

DIVISION OF ARCHITECTURE

EDGAR MARTIN, *Supervising Architect*

New State buildings being erected under the direction of the Division of Architecture call for an expenditure of \$4,680,000. Among the notable new building projects now under way are the Centennial Memorial Building, adjacent to the Capitol Building in Springfield; the Central Group Hospital in Chicago; and comprehensive groups of new buildings at the institutions at Alton, Dixon and Lincoln.

The Centennial Memorial Building is rapidly taking shape, and the structure will be roofed and enclosed before the coming winter. This building, a monument to Illinois' first hundred years of statehood, is of a style expressive of its monumental and commemorative character, and is in harmony with the present Capitol Building, which it flanks. Massive stone courses, stately arches, great Corinthian columns and crisply carved stone give the building dignity and beauty. In it will be housed the State Library, the State Historical Library, the Civil War collections now in the Capitol Building, the State Museum of Natural History, an assembly hall seating over six hundred and a room to house a collection of articles associated with the life of Lincoln. Office space also is provided, which it is proposed greatly to increase by the extension of future wings to meet the requirements of departmental activities. In view of the fact that the increase in these activities, commensurate with the growth of the State, has always in the past, exceeded the most sanguine expectations, careful provision has been made for the future expansion of the building.

The Civil War collections will be placed in a spacious columniated Memorial Hall, one hundred and fifty feet in length and two stories high. The walls, columns and cornices of this hall will be of a natural travertine stone, a warm sienna in color, with a ceiling richly coffered. Monumental entrance halls will be at either end from which open the Assembly Hall designed in the Pompeian style. On the floor above the Memorial Hall will be the State Library and State Historical Library with book stack space arranged with provisions for growth to 700,000 volumes. On the same floor will be the Lincoln Room for the collection of historical mementoes which relate to the life of Illinois' greatest citizen. The fourth floor will be office space for State departments. The fifth floor will be given to exhibition galleries for the State Museum, hitherto inadequately housed in the Arsenal. A terrace from the east portico of the Capitol Building to the west entrance of the new building

will form the roof of an underground corridor which will facilitate passage from one building to the other without exposure to the weather.

It is noteworthy that this is the first State building of magnitude undertaken since the organization of the Department of Public Works and Buildings under the operation of the new Civil Administrative Code; and in comparison with the plans proposed for the same building some years ago, it adds testimony to the efficiency and success of Governor Lowden's administrative reform.

IMPROVEMENTS AT INSTITUTIONS

The Central Group Hospital, predicted to take its place among the notable institutions of its kind in the world, is the result of a working agreement made between the Department of Public Welfare and the University of Illinois. Administrated by the Department of Public Welfare and functioning as a State charity, the medical and hospital service under the direction of the medical faculty of the University becomes an adjunct of the University Medical School. By this connection, the clinical research work of the University and the State Charities will be of mutual service.

The initial group comprises buildings for the Illinois State Eye and Ear Infirmary, the Children's Surgical Institute, Psychopathic Institute, and the general Clinical group of the University. As these are scarcely more than a nucleus for the ultimate development of the institution, most careful consideration has been given to its future expansion. The buildings are collegiate in architectural style and from the standpoint of architectural design will compare favorably with other university groups of the highest type. The former grounds of the Chicago Baseball Club, an area of about ten acres near the Cook County Hospital, has been purchased for a site. Contracts have been awarded and work is in progress on these buildings, the present appropriation for which is approximately \$900,000.

Proposals are now being taken for the Dixon State Colony for Defectives and the Dixon Hospital for Epileptics, a group of buildings which will house approximately eight hundred additional patients. These were planned as far as is possible on what is known as the cottage type of building which will give the institution the general appearance of a small village. This plan affords the patients living conditions as near those of normal home life as their disability will permit.

Drawings which are in readiness for proposals for a similar group of buildings at the Alton State Hospital consist of ward buildings, buildings for tubercular patients, receiving buildings and an acute disease hospital. Contractors have been asked for proposals for a school building at the Illinois State Training School for Girls at Geneva; a school building and a cottage at the Soldiers' Orphans' Home at Normal; a nurses' home at the Anna State Hospital; a kitchen and commissary building at the Watertown State Hospital; and for an acute disease hospital at Elgin.

Plans are being completed for more adequate quarters for the State troops; and drawings are well under way for new armories at Peoria, Danville and Kankakee.

At the Lincoln State School and Colony a group of new buildings, consisting of an infirmary for tubercular patients, a cottage for mothers and small children, and a laundry building have been completed. Plans for a number of new cottages at St. Charles are in the hands of the managing officer for construction by the institution. Plans for the construction of an industrial building, a tubercular cottage, and a cow barn have been furnished the Jacksonville State Hospital for construction by themselves. Plans have been prepared for an industrial building at the Chicago State Hospital. A nurses' home has been completed at Dunning. Additions to the employees' building and to the industrial building are being constructed at St. Charles, also storage and industrial buildings at Pontiac. A custodians cottage has been completed at the Douglas Monument Park and work is progressing on the museum building at Old Salem.

AVOIDING HIGH COST OF CONSTRUCTION

The shortage of labor and materials, which makes it difficult to secure low proposals from contractors, would have necessitated the abandonment of a number of urgently needed building projects, had not the division undertaken them with its own employees. It is by this means that a rock crusher plant and a new boiler house are being built at the Southern Illinois Penitentiary, an auto truck storage shed at the State Fair Grounds in Springfield, for the motor trucks turned over to the State by the U. S. Government, as well as the museum building at Old Salem. At the Vandalia State Farm quarters are being built to house 200 men, guards and convicts, who will be employed in the construction of permanent buildings there.

Similarly, industrial conditions and the car shortage led the division to undertake preliminary work at Alton, Dixon and Elgin with its own organization.

At Dixon a sand pit was located and opened. A rock crusher purchased, a stone quarry put in operation, and a cement block making plant installed. At this writing we are well under way with the manufacture of 180,000 cement blocks, the equivalent of approximately two million common brick, and the delivery of 7,000 yards of sand, of 7,500 yards of crushed stone, all amounting to not less than 20,000 loads of material to the site of the proposed buildings. Our cost data, carefully kept, shows a saving of \$60,000 over the same material purchased at the current market rates. Similar work is being accomplished at Alton.

At the time this division took up its duties the repair appropriations of the various State institutions had long been regarded as a contingent fund to be used for all deficiencies and for every purpose, while the buildings themselves were neglected. Physically the institutions had

fallen into a deplorable state of disrepair. Maintenance was far from keeping pace with depreciation. Roofs generally had deteriorated to an extent that caused damage to the interior of the buildings. Much of the sheet metal work had not been painted in some cases since its first installation, and was corroded to the point of total destruction. Woodwork was going to pieces and floors were decaying from lack of protective paint or varnish. Plastering was broken and falling from the lath; brick work was being water soaked and was disintegrating. Fire protection had been given no attention, and in many buildings the neglect of safety was almost criminal.

During its term of office this division has made an earnest effort towards the confinement of the repair fund to its legitimate use, that of the maintenance and rehabilitation of the buildings of the institutions. Their state of disrepair at the beginning was so advanced that a longer period of time than has been available is needed for their rehabilitation; but great progress has been made and the institutions present a much improved appearance over that of a considerable time previously. On these repairs approximately \$900,000 has been expended this year. Eleven hundred and fifty contracts or authorizations have been drawn by this division for the repairs at institutions.

DIVISION OF ENGINEERING

FRED J. POSTEL, *Supervising Engineer*

While this division prepares all plans and specifications for, and supervises all new mechanical construction at the various State institutions and armories, more than half of its time is devoted to matters of operation, maintenance, and repair of mechanical equipment, and in assisting other divisions in matters pertaining to engineering.

The principal new projects for which plans and specifications were prepared during the year, were the Centennial Building, the new hospital and colony groups of buildings at Dixon, the new buildings at Alton, and the rock crushing plant, with its power plant, at Menard. In addition to these, there were individual buildings at a number of the institutions and some new construction work at practically every institution. Only preliminary work was done on the Chicago Psychopathic Hospital during the year, and work on the final plans was not started until after July 1, 1920.

During the year from July 1, 1919, to July 1, 1920, coal for all State institutions was purchased on the "B. t. u." basis. This division prepared the coal specifications; arranged for the taking of samples for analysis; and assisted the division of Purchases and Supplies in all technical matters pertaining to the coal contracts. While there were protests filed by contractors against individual analyses, these protested analyses sometimes resulted in a slight correction in favor of the contractor and sometimes in favor of the State. As a whole, the plan worked out very successfully. The coal obtained by the institutions was of better quality than formerly and where shipments were of poor quality, the deduction made from the contract price under the terms of the specifications, was sufficient to save the State from loss. During the year the total penalties collected under this plan of purchasing coal, exceeded the bonuses allowed, by approximately \$30,000. Undoubtedly, the State made an even greater saving due to the fact that better coal was delivered under the "B. t. u." plan of purchasing coal than would ordinarily have been delivered. There is a considerable variation in the quality of coal from the same mine, especially in screenings and mine run, and it is, therefore, to be expected that the better cars will be diverted to contracts on a "B. t. u." basis, while the poorer cars will go to purchasers who merely buy "coal."

The success or failure of this method of buying depends primarily on how the samples are taken. The sample must be a true representative

sample, and both the purchaser and contractor must be satisfied as to the absolute fairness and impartiality of the man taking the samples. The checking system we used, where samples of coal taken at one institution were checked against samples of coal from the same mine taken at another institution, demonstrated that these samples were being taken with an unusual degree of accuracy, and that they really were fairly representative samples.

In checking up on coal prices paid by the various institutions, it came to the attention of this division that the Chicago State Hospital at Dunning had been paying a switching charge of 57 cents per ton ever since the institution was built. We were told that repeated attempts had been made to have this rate equitably adjusted, but without success, and that it would be useless for us to attempt to get the same rate that other industries on this switch track were receiving. With the assistance of the engineers of the Utilities Commission, we undertook to have this switching charge reduced to 10 cents per ton, which was the rate other industries on this line were paying, and which we considered a reasonable rate. After several hearings before rate committees of the railroads, and finally before the Interstate Commerce Commission, an agreement was reached that, effective September 1, 1920, the Chicago rate, plus 10 cents, should be effective. This will mean a saving of about \$9,500 a year for this institution.

POWER PLANT REPORTS

During the year we introduced a system of daily power plant reports at some of the institutions. Incidentally, none of the institutions have sufficient instruments and equipment to make a complete report, but wherever they had enough instruments to make a report of any value, we furnished them printed blanks, which were filled out each day, as far as the installation of the instruments permitted, and returned to us at the end of each week. This gave us a fair idea of how these few plants, at least, were operating, and enabled us to assist these institutions to some extent in stopping unnecessary waste of fuel.

The Elgin State Hospital has the most complete equipment of power plant measuring instruments of any of the State institutions, and as might be expected, shows by far the most economical power plant operation. All of the institutions have shown a marked improvement in power plant operation within the last three years, but until each institution is properly equipped with the necessary measuring instruments, and a definite system of daily power plant reports is put into effect, these attempts at economical operation will be more or less spasmodic, and at best, only temporary. The annual saving, which could be effected under such a system properly administered, would be at least five times the annual cost of maintaining it. We have repeatedly recommended that this system be put into effect, but so far have been unsuccessful in obtaining the necessary appropriation.

Late in the spring of 1919, the division started some experiments at the Chicago State Hospital, to determine the feasibility of utilizing the waste heat of the service tunnels. Further experiments were made in the fall and these demonstrated conclusively, that it was entirely feasible and practical to heat one or more building at each of the larger institutions with the waste heat of the tunnels, and, furthermore, that the air conditions in a building so heated, were superior to those of any other building on the grounds. This system has been partially applied to the school building at Geneva, with very satisfactory results, but on account of lack of funds, it could not be applied at other institutions.

This test was reported and discussed in the technical press, and letters have been received from private institutions which propose to adopt the system, but until additional funds are available, we will not be able to apply it at any of the State institutions. In the present budget we are recommending appropriations which will permit this waste heat to be utilized.

During the last two years, the State has had to pay from \$160 to \$200 a ton for plain castings, such as grate bars and links for chain grate stokers. As considerable quantities are required for replacements in maintaining the stoker equipment of the various State institutions, this represented in the aggregate a large expenditure. With the cooperation of the Warden at Joliet, we have worked out a plan under which all plain castings for all institutions will from now on be cast in the foundry at the prison.

We have had an unusual year for experience in the matter of maintaining a suitable water supply at the various institutions. At Kankakee, St. Charles, Menard, Soldiers' Orphans' Home, Normal University, and Watertown, the water supply proved insufficient. By making certain changes and overhauling the pumping equipment at Kankakee and at St. Charles, both of these institutions now have an abundant supply. At Normal University, the depth of the well was increased and the water is being pumped from a lower strata, where we found an abundant supply. We are now working on plans, which we feel will solve the water supply problem at Menard, Soldiers' Orphans' Home, and Watertown also, although this work is not yet complete.

In April of this year, the Second Annual Meeting of the chief engineers of all State institutions was held at the University of Illinois. An unusually good program was provided and there was a full attendance. These meetings were reported and the proceedings published, and enough copies sent to all institutions, so that each employee of the power plants is furnished a copy. Not only do the engineers apply the knowledge gained at these meetings, and thus improve the operation of their plants, but a spirit of cooperation has been developed among the chief engineers, which was formerly unknown. At the present time these men are helping each other work out their problems and each man is ready at all times to assist any of the others with men and material whenever needed.

These meetings are to a great extent responsible for the cheerful assistance and cooperation this division has at all times received from the chief engineers of the various institutions, and what we have been able to accomplish, has been accomplished primarily through this assistance and cooperation.

MANY CHANGES IN PERSONNEL

The most serious problem confronting the division during the last year, was the continual change in personnel. During the last six months of the year every engineer in the division resigned to take a better paying position elsewhere. It was not only very difficult to find competent men who would accept the positions at the salaries we could pay, but even when we found good men, they were unfamiliar with the institutions and their requirements. In several instances, as many as four different engineers were assigned to a job before it was completed. Needless to say, this resulted in much duplication of work and effort, considerable delay in the completion of the job, and greatly increased the cost of carrying on this work. At the same time, we were always short of men, so that considerable construction work had to be carried on, without any inspection by this division, and none of the work was inspected as frequently as it should have been.

It would seem that some provision could be made to provide greater flexibility in the matter of salaries, to meet any unexpected situation that might arise. If it is necessary to fix maximum salaries in the appropriation bills, then these maximums should be fixed at an amount considerably higher than it is expected to pay, except in an emergency.

Under the present rules rigidly applied as they were last winter and spring, all the work of two and a half years of building up an organization was undone in a few months. In December, 1919, this division was an efficient, well organized organization. Six months later, there was hardly enough of an organization remaining to carry on even the most important work. We are now reorganizing and it is hoped that we will soon get back to the former standard of efficiency. Every effort should then be made to prevent a recurrence of such a situation as that through which the division has just passed.

DIVISION OF HIGHWAYS

S. E. BRADT, *Superintendent*

CLIFFORD OLDER, *Chief Highway Engineer*

The officers of the division are S. E. Bradt, superintendent of highways, and Clifford Older, chief highway engineer. For convenience and efficiency the work is administered through six bureaus; namely, the Bureau of Design; Bureau of Construction; Bureau of Maintenance; Bureau of Tests; Bureau of Machinery; and Bureau of Audits. In order to facilitate the field work, nine geographical districts have been established with a district engineer in charge of each, who reports to the various bureau chiefs according to the nature of the work involved.

Following is a summary of the duties of the various bureaus:

Bureau of Design. Making reconnaissance surveys prior to the general location of State bond issue and Federal aid roads; making detailed surveys and preparing plans, estimates, proposals, specifications and contract forms for all Federal aid, State bond issue and State aid road and bridge work; preparing descriptions and plats and superintending the purchase of right of way for State bond issue; Federal aid and State aid roads; preparing plans of county and township bridges and checking all bridge plans submitted for approval according to law; giving consulting service to highway officials on road and bridge work; checking road and bridge proposals, plans, estimates and contracts submitted for approval according to section 15d of the road law.

Bureau of Construction. Supervising the construction of roads and bridges built under the supervision of the division and making final inspection when completed; checking and passing upon estimates allowed contractors for work done; supervising the preparation of Federal aid reimbursements in payment for completed Federal aid road; supervising statistics prepared on completed work; supervising the distribution of crushed stone supplied by the two State penitentiaries; directing the supervision of day labor construction.

Bureau of Maintenance. Inspecting, repairing and maintaining roads built under the jurisdiction of the division which, when accepted in accordance with the provisions of the law, are taken over by the State for maintenance.

Bureau of Tests. Testing and approving of materials used in the construction or maintenance of roads and bridges built under the jurisdiction of the division; testing, upon request of county and township officials, materials used in county or township road and bridge construction.

Bureau of Machinery. Receiving and placing in storage trucks, and other equipment and materials allotted to the State by the Federal Government; arranging for rental of such equipment to contractors on road work, counties, townships and other municipalities; repairing and distributing of such equipment; and keeping systematic records in connection therewith.

Bureau of Audits. All of the accounting and clerical work in the division is handled in this bureau under the direction of the chief clerk.

FEDERAL AID

The division has been very active in carrying out the provisions of the Federal Aid Road Act. There was available on July 1, 1919, approximately \$27,000,000 for the construction of Federal aid roads. This fund is made up as follows: \$12,000,000 allotted to Illinois by the Federal Government and something over \$15,000,000 appropriated by the State legislature from the State road fund to meet the Federal allotment. The Federal aid system upon which the proceeds of this fund are being expended is located as follows:

First, a road extending from Chicago, Cook County, Illinois, following the general location of the Lincoln Highway to Clinton, Iowa.

Second, a road extending from Chicago south to Danville, Illinois, thence east to the Indiana line, forming a part of the Dixie Highway, which starts in the state of Michigan and extends south to Miami, Florida.

Third, that road which had been designated as the National Old Trails road extending from a point near Terre Haute, Indiana, through the State of Illinois to East St. Louis.

Fourth, a road from Chicago, Illinois, to East St. Louis, connecting the two largest centers of population in the middle west and forming a link in the northeast and southwest National system.

Fifth, a road running from Chicago in a northerly direction to the Wisconsin line, connecting with a road to Milwaukee and thence to St. Paul and Minneapolis.

REPORT OF BUREAU OF DESIGN

Volume and Scope of Work. During the past fiscal year the work of the Bureau of Design has practically tripled. The number of miles and the estimated cost of the road work for which plans have been prepared under the direction of the Road Office has more than doubled. A large mileage of Federal aid contracts was awarded, and also plans were prepared for an extensive construction program on the State bond issue system which was not undertaken on account of economic conditions. However, a large mileage of heavy grading contracts was awarded. The estimated cost of the bridge work for which plans and specifications were prepared by the Bridge Office is two and one-half

times that of the preceding year. Post war conditions prevented the award of many bridge contracts, but, nevertheless, the amount of bridge contracts awarded, as indicated in the accompanying table, is almost double that of the preceding fiscal year. Many plans for road and bridge work to be built under section 15d of the road law were checked and approved. State aid activities have been confined to the awarding of contracts to use up the remainder of the 1917 appropriations. The work of preparing detailed options, descriptions, plats and dedication forms for right of way required for the roads built by the State, and the directing of right of way purchases has increased from almost nothing to one of the largest activities of the Bureau. About 1,500 separate tracts of land have been acquired for right of way purposes during the fiscal year. Some of the new and most interesting phases of the work of the bureau are described in the following paragraphs.

Location of Roads, Surveys and Plans. Before the location of the State bond issue or Federal aid roads is decided, a reconnaissance survey is made by a party of competent engineers. All possible routes are investigated, and a report is made showing the comparisons of the various routes with respect to mileage to travel, mileage to build, cost, number of sharp turns, number and character of grade crossings, maximum percentage of grade and population served. With this information available, a public hearing is held at which the local interests are invited to advance their preferences. Upon the basis of the information derived from the engineering reports and the public hearing, the final location is decided. By means of reconnaissance surveys 8,050 miles of road have been investigated, of which 3,260 miles have been recommended for final location. Decisions have been published stating the final location of 2,120 miles on the State bond issue and Federal aid road system. Detailed surveys have been made for 1,635 miles, and plans and estimates completed for 1,350 miles of road. These activities have been necessarily curtailed during the construction season on account of the press of other duties.

Changes in Road Design. Engineering investigations conducted by the bureau pointed to the necessity of increasing the thickness of pavements in order to insure their stability under the increasing volume of heavy truck traffic. Consequently, the Portland cement concrete pavements have been increased to a uniform thickness of eight inches, and all other types have been strengthened in proportion. In addition to this, the use of mechanical tamping machines and a dry mix of concrete has been specified, which move has also resulted in stronger pavements. The pavement designs, as now used, have a factor of safety entirely adequate to carry the maximum legal load of 8 tons on one axle as specified in the State laws. The ever increasing volume of motor trucks has required the adoption of a width of 18 feet on the main roads. The width of graded roadway in all cases has been established at 30 feet, and all

culverts and the smaller bridges have a roadway equal to the full shoulder to shoulder width of the road. Larger structures have a 20-foot roadway. Illinois has been a pioneer in the advanced quality of highway alignment now in force. All right angled turns are rounded to a radius of 300 feet, and all curves are made as long and gradual as topography will permit. This has resulted in a much safer and more beautiful road. In addition, all curves are superelevated or banked so as to enable automobiles to travel at a conservative, uniform speed without danger of skidding or overturning.

Bridge Design. The interesting developments in bridge design are an increased attention to the aesthetic side of designing, a further standardization of specifications and methods of design and the increased number of large structures for which plans have been made.

Bates Experimental Road. There exists a great need for accurate scientific data concerning the load carrying capacity of all the standard types of hard surfaced pavements suitable for rural highways. Plans have been formulated for a test road which will be located at Bates, a few miles from Springfield. The selection of this location was made so as to secure as nearly as possible uniform conditions of soil, drainage, gradient and alignment to the end that all types of pavements may be tested under the same conditions. The road will be 18 feet wide and will have a length of 10,800 feet. There will be 64 different sections which will each be about 200 feet long and of various thickness of Portland cement concrete, brick and bituminous concrete pavements. The construction of this test road will be completed by the spring of 1921, and the testing will begin by the middle of the summer. This testing will be done by means of loaded trucks in such manner as to determine the load carrying capacity of each type of pavement under actual road conditions. This test is being undertaken in cooperation with the United States Office of Public Roads, which office is furnishing financial and engineering assistance.

Tables. The following tables give a statistical summary of the work of the Bureau of Design:

TABLE 1—FEDERAL AID ROAD WORK

Work let prior to July 1, 1919.....	{	325.86 miles pavement....	\$9,975,992.92
		10.97 miles grading.....	125,326.38
		No separate bridge contracts.	
Work let July 1, 1919—June 30, 1920.	{	245.31 miles pavement....	\$9,103,162.20
		29.25 miles grading.....	678,486.42
		8 bridges	159,045.84
Total work let.....	{	571.17 miles pavement....	\$19,079,155.12
		40.22 miles grading.....	803,812.80
		8 bridges	159,045.84
		Total.....	<u>\$20,042,013.76</u>

NOTE.—The bridges listed above include only large isolated bridges for which separate contracts were let.

TABLE II—BRIDGE WORK DONE DURING THE FISCAL YEAR, JULY 1, 1919 TO JUNE 30, 1920.

PLANS AND SPECIFICATIONS PREPARED.

Classification.	Number.	Estimated cost.
County and township bridge work.....	260	\$ 883,124 00
State aid, Federal aid and State bond issue bridge work.....	25	175,392 60
Bridges to be let in connection with State road work.....	6,441	2,481,479 30
Total.....	6,726	\$3,539,995 90

CONTRACTS AWARDED.*

Classification.	Number.	Estimated cost.	Contract price.
County and township work.....	188	\$535,594 00	\$529,420 00
State bridge work.....	30	197,998 08	201,944 00
Total.....	218	\$733,592 08	\$731,364 00

* This table does not include bridges and culverts let in connection with State aid and Federal aid road contracts.

In addition to the work indicated above, the Bureau of Design checked and approved 282 bridge plans prepared by county superintendents of highways; investigated the strength of and made recommendations for the repair of 12 existing highway bridges; checked and approved 24 sets of shop drawings for new steel highway bridges, and made shop inspection of the structural steel for 18 steel bridges.

TABLE III—BRIDGES COSTING MORE THAN \$25,000 FOR WHICH PLANS WERE PREPARED OR CONTRACTS LET JULY 1, 1919 TO JUNE 30, 1920.

Designation.	Location.	Spans.	Type.	Estimated cost.	Contract price.
Section 29B.....	Marion County.....	3 at 45'.....	Concrete.....	\$25,800 56	.....
Section 8B.....	Wayne County.....	3 at 40'.....	Concrete.....	24,185 84	.....
Section 27B.....	Marion County.....	120'.....	Steel.....	23,745 84	.....
Section 2B.....	Jackson County.....	{ 2 at 170' .. 1 at 70' .. }	Steel.....	90,023 60	.....
Section 5B.....	Jackson County.....	120'.....	Steel.....	32,833 32	.....
Section 19C.....	Stephenson County.....	120'.....	Steel.....	25,109 00	.....
Bradley Bridge.....	Livingston County.....	4 at 60'.....	Concrete.....	39,250 00	.....
Section 17C.....	Wayne County.....	2 at 50'.....	Concrete.....	20,601 04	.....
County Line Bridge.....	Moultrie County.....	2 at 120'.....	Steel.....	37,800 00	\$41,000 00
Mackinaw River.....	Tazewell County.....	{ 1 at 170' .. 7 at 50' .. }	Steel and concrete..	70,550 68	68,092 27
North River Bridge.....	Kankakee County.....	4 at 57'.....	Concrete.....	26,200 00	28,789 00
Wilmington Bridge.....	Will County.....	7 at 68'.....	Concrete.....	86,500 00	82,987 00
Section 8.....	Vermilion County.....	3 at 40'.....	Concrete.....	23,610 01	25,326 01

BUREAU OF CONSTRUCTION

While the World War was over at the beginning of this fiscal year, yet its effects have been felt in the carrying on of the highway work. The division has been very greatly handicapped by the difficulties encountered in the matter of transportation facilities, followed by strikes,

and various orders issued by the Interstate Commerce Commission and the Car Service Commission. The matter of delays from these causes, as well as the work accomplished notwithstanding such delays, is very thoroughly covered by the Director in his paragraph on the Division of Highways.

No appropriation was made for State aid by the Fifty-first General Assembly, and the work carried on during this fiscal year, under the State aid law, was the completing of State aid contracts undertaken under the appropriation made by the Fiftieth General Assembly in 1917.

The following is a summary of the construction work accomplished during the fiscal year:

**TABLE 1—STATE AID ROAD WORK COMPLETED FROM JULY
JULY 1, 1919, TO JUNE 30, 1920**

Type.	Miles.	Cost.
Brick and concrete.....	20	
Macadam and gravel.....	10	
Earth and oiled earth.....	52	
Total	82.....	\$1,043,339.44

UNFINISHED STATE AID ROAD WORK AWARDED PRIOR TO JUNE 1, 1920

Type.	Miles.	Cost.
Brick and concrete.....	8	
Macadam and gravel.....	4	
Earth and oiled earth.....	6	
Total	18.....	\$778,110.62

**TABLE 2—COUNTY ROADS BUILT UNDER SECTION 15d OF THE ROAD LAW
(EXCLUSIVE OF 15d SECTIONS LOCATED ON THE FEDERAL AID
SYSTEM)**

COMPLETED FROM JULY 1, 1919 TO JUNE 30, 1920

Type.	Miles.	Cost.
Brick	5	
Concrete	22	
Macadam and gravel.....	1	
Earth and oiled earth.....	14	
Total	42.....	\$616,167.00

UNFINISHED 15d ROAD WORK AWARDED PRIOR TO JUNE 30, 1920

Type.	Miles.	Cost.
Brick	7	
Concrete	63	
Macadam and gravel.....	6	
Earth and oiled earth.....	19	
Total	85.....	\$2,318,543.00

**TABLE 3—FEDERAL AID PAVEMENT COMPLETED FROM JULY
1, 1919 TO JUNE 30, 1920**

Type.	Miles.	Cost.
Concrete	197	
Brick	3	
Bit. concrete and bit. macadam.....	1	
Total	201.....	\$7,418,363.54

(this sum includes cost of the 30 miles noted below).

(In addition to the above mileage of completed pavement 30 miles of heavy grading work were completed on this system).

UNFINISHED FEDERAL AID WORK AWARDED PRIOR TO JUNE 30, 1920

Type.	Miles.	Cost.
Concrete	364	
Brick	14	
Bit. concrete and bit. macadam.....	10	
Earth	34	

Total	422	\$11,260,884.89
Total amount of reimbursement vouchers issued from July 1, 1919 to June 30, 1920, on work completed above.....		\$2,752,398.44

Tables Nos. 1 and 3 give a summary of Federal aid and State aid road work completed during the fiscal year. The mileage of pavement completed is distributed as follows:

Bond Issue Route 6	(Popularly known as the Lincoln Highway), extending from Chicago through Wheaton, DeKalb, Rochelle, Dixon, Sterling and Morrison, to Fulton, Iowa	49 miles
Bond Issue Route 1	(Dixie Highway), extending from Chicago through Chicago Heights, Watseka, Danville and Paris to Marshall, Illinois	44 miles
Bond Issue Route 11	(National Old Trails Road), extending from East St. Louis through Vandalia, Effingham and Marshall, to the Indiana State Line near Terre Haute	40 miles
Bond Issue Route 4	(Chicago-East St. Louis Road), extending from Chicago through Joliet, Ottawa, Peoria, Springfield, Carlinville and Edwardsville to East St. Louis	68 miles
Bond Issue Route 42	Extending from Chicago through Waukegan to Wisconsin Line .....	... miles
State aid work (including earth and oiled earth) distributed in various counties of the State.....		82 miles
Total		283 miles

There are still uncompleted contracts on the above roads approximately as follows:

Bond Issue Route 6.....	45 miles
Bond Issue Route 1.....	51 miles
Bond Issue Route 11.....	88 miles
Bond Issue Route 4.....	178 miles
Bond Issue Route 42.....	19 miles
State aid work.....	18 miles

Total 399 miles

During the fiscal year there were approximately sixty contractors working on the Federal aid roads listed above. The mileage which each contractor had varied from four to sixty miles, the average being about ten miles to a contractor. Each contractor had sufficient equipment on his work to have completed practically twice the mileage reported above. However, on account of shortage of material and many other unfavorable conditions which existed, the work was greatly delayed.

BUREAU OF MAINTENANCE

Under the State aid, Federal aid and bond issue laws, the division is called upon to maintain all roads constructed by the State. The State pays the entire cost of maintenance for such roads, as well as for State aid roads constructed of brick, concrete and bituminous concrete on a concrete base. The cost of maintenance for gravel and macadam roads, built in accordance with the specifications and under the supervision of the division, is paid one-half by the State and one-half by the county. The entire cost of the maintenance of earth roads improved under the State aid law is paid by the counties. However, the State has supervision of the maintenance of gravel, macadam and earth roads which have been constructed under the State law.

Following is a table of the maintenance cost for accepted mileage based on an 18-foot width of pavement:

Type.	*Miles.	**Cost per mile based on an 18 foot pavement.	Average cost per sq. yd.
Brick.....	92.0	\$ 226.19	.02142
Plain concrete.....	458.1	176.09	.016675
Bituminous macadam.....	23.0	1,073.21	.10163
Water bound macadam.....	31.0	238.93	.022626
Gravel.....	45.0	204.82	.019396
Earth and oiled earth.....	489.0	28.34	.0020129
	1,138.1		

NOTE.—The above figures include the cutting of weeds and vegetation, cleaning of ditches and drain and maintenance of pavement.

* It should be understood that the schedule of mileage given in this table is the total mileage of roads of the different types maintained during the fiscal year regardless of widths.

** The schedule showing cost per mile shows the actual cost per mile of an 18 foot road having the same surface area as exists in the total miles of pavement of each type.

BUREAU OF TESTS

At the beginning of the construction season of the year 1919 the Federal aid program required that the testing and inspecting facilities of the Materials Department be greatly increased and expanded to meet the requirements of the U. S. Office of Public Roads in respect to the sampling and testing of materials. The laboratory, which is now located at 820 East Adams Street, Springfield, has been developed, since its establishment about ten years ago, until it is as well equipped and the character of the work is on as high a standard as that of the testing laboratories of any of the older states whose laboratories were well established before this State had undertaken the testing of materials to any extent.

Field testing laboratories have been established to handle the cement inspection at the various cement plants furnishing cement on State contracts. There are, at present, nine of these plants located at the following different places: LaSalle and Dixon in Illinois, Buffington and Mitchell in Indiana, and Hannibal and St. Louis in Missouri. The work at each plant is in charge of a testing engineer and all cement is tested and either approved or rejected before it leaves the plant. During the fiscal year 1919-20 1,138,236 barrels of cement were inspected, and of this amount 1,103,500 barrels were approved.

The method of cement inspection used by this department is probably the most thorough inspection made by any laboratory doing cement testing on a large scale. An idea of the amount of laboratory work involved in testing the above quantities of cement is shown by the number of specimens required for test. Approximately 200,000 test specimens were made and tested from samples taken as the cement was packed and loaded at the plants, which is about four times as many tests as

would be required by the ordinary standard methods. Chemical tests in addition to the physical tests have been performed daily to check the composition of the cement. While chemical tests are specified in most standard specifications, they are rarely ever made by the average testing laboratory in routine testing of cement. It is possible to adulterate cement in such a manner that it will not be detected by the usual physical tests, and chemical tests have been made to prevent any chance of adulteration, which has been practised to some extent in the past.

During the construction season of 1919 the inspection of concrete aggregates was performed as the material was received on the work, tests being made on samples taken from the cars at the point of unloading. One inspector usually tested all the material received at several points over a stretch of perhaps twenty-five or fifty miles of road. This system of inspection, while economical and meeting the Federal aid requirements, was unsatisfactory for the reason that it involved the rejection of materials at the destinations, thus causing serious inconvenience and financial loss, as well as delaying the work to the detriment of the State and the contractor. In the spring of 1920 the inspection of aggregates was undertaken at the sources of supply as they were loaded. This arrangement has done away with many of the difficulties and undesirable situations which resulted from the old method of sampling and testing on the work, and has tended in general to promote a more efficient operating relationship between the contractors, material companies, and the department. The main objection to this method of inspection is that the number of plants involved is large, and the plants are widely scattered, thus requiring a rather large force of engineers; this has increased the cost of inspection to the State. However, the severe conditions attending the production and shipping of materials would seem to amply justify this expense.

The division has performed, in addition to the cement and aggregate inspection, plant inspection at two paving brick plants, and occasional inspection of bridge materials, including wood paving block and piling at various wood preserving plants.

The central laboratory makes check analyses to verify the results of the field testing engineers, and tests various road and bridge materials in addition to cement and aggregates. Approximately 20,000 tests were made on cement, 1,000 tests on aggregates, and 1,000 tests on other materials including special samples of sand, gravel, rock, cement, paving bricks, asphalts, road oils, tars, paints, and a large number of miscellaneous materials. A great many of these samples represented materials used in construction done under State supervision, while a large number represented various materials, especially road oils which were submitted by county and township road officials, and the remainder represent samples tested in connection with experimental and research work done in the laboratory.

The division has, in addition to making the necessary inspection and tests of materials for road building, carried on a considerable number of research and investigational projects which have been of importance in the study of road construction.

The division is cooperating with the State Geological Survey in the work being carried on in the State. All of the samples of this survey have been tested, in detail, in the laboratory of this division.

BUREAU OF MACHINERY

Subsequent to the close of the war Congress passed an act providing for the distribution of suitable road building equipment by the War Department, through the Secretary of Agriculture, to the various states. This act provided that such equipment could be used only in the construction of Federal aid roads. In accordance with this act and up to the present time the State of Illinois has received a large number of serviceable motor trucks.

Early in 1920 Congress passed an amendment permitting the various states to lease this equipment to counties or other municipal bodies for road work, removing the restriction on their use for Federal aid roads only.

This enabled the department to allot to the various counties of the State some 400 motor trucks; about half of this equipment was new when received by the State and one-half had been used in the army. The allotment to the counties was made partly in proportion to the road mileage in the county and partly in proportion to the assessed valuation of the county. Up to the present time approximately 100 trucks have been turned over to counties under this plan which provides that the county itself or any municipality may, by entering into an agreement with the State, receive one or more of the motor trucks which were included in the original allotment to the county.

The Federal act providing for this distribution is very explicit in requiring that the title of the trucks remain with the State, and that the trucks shall not be leased to any township, city or municipality at a less rental than that necessary to keep the truck in repair. The State, therefore, is charging a rental for these trucks including a small fixed sum to cover the cost to the State of freight and handling, and a small yearly sum to cover the general inspection of this machinery, the municipality being expected to maintain the trucks in good repair.

The trucks are virtually the property of the county or municipality, although the title remains with the State, as the agreement with the county or municipality provides that the trucks may be retained as long as they are kept in serviceable condition and are used on the public roads or streets. This requirement is only that specified in the Federal law and cannot be avoided.

It may readily be appreciated that by the distribution of surplus war equipment in this way, although the Government does not receive a

cash return, the expenditure for this type of war equipment is giving value received to the people as a whole.

In addition to the trucks, a large amount of miscellaneous equipment, adaptable for use in road construction, has been received. A large portion of this equipment has been leased to contractors doing work for the State, and considerable revenue has been derived therefrom. It is contemplated that the most suitable of this equipment will eventually be used by the State in constructing roads under the force account plan.

Cash rentals and the rental value of trucks and other equipment used by the Maintenance Bureau of this division brings the total service value derived from this equipment which has been placed in service thus far to approximately \$334,000.

The following schedule shows in general the amount, character and value of the equipment received:

	Amount and character.	Value.
811	Trucks (1-ton to 5-ton capacity).....	\$2,552,040.00
107	Passenger cars (various makes and sizes).....	31,725.00
280	Pieces (approximate) heavy industrial equipment, locomotive cranes, hoisting engines, road rollers, etc.....	304,710.00
100	Car loads (approximate) miscellaneous items, tires, spare parts, sheet metal, extra wheels, etc.....	189,436.00
Total value		<u>\$3,077,911.00</u>

BUREAU OF AUDITS

The accounts of the division are laid out in accordance with the following classes of work and functions:

Classes of Work

State aid
Federal aid
County bond issue—otherwise known as 15d work.

Functions Involved

General administration
Engineering and supervision
Construction
Maintenance
Equipment.

Under the State aid class of work, construction costs are divided between the State and county. Under the Federal aid class of work, the first cost is paid entirely by the State, with a reimbursement from the United States Government after same has passed the inspection of the United States District Engineer. County bond issue work is paid for entirely by the counties, upon certification from this office.

General administration, and practically all engineering and supervision, for each class of work is furnished by the Division of Highways.

The following represents a tabulation of the costs and expenditures of the fiscal year ending June 30, 1920:

Function.	Amount.	Percentage.
General administration.....	\$ 78,858.14	.83
Engineering and supervision.....	607,838.20	6.39
Construction.....	8,461,702.98	89.00
Maintenance.....	157,550.82	1.65
Equipment.....	202,685.29	2.13
	\$9,508,635.43	100.00

These totals represent expenditures for all classes of work combined during the fiscal year mentioned. Of the total construction expenditure for this period, \$6,725,902.50 was paid from State appropriations and \$1,729,376.58 was certified to the various counties of the State for payment; the balance being contributed by local people for the widening of the pavement on one section.

Of the total maintenance cost for the fiscal year, \$102,714.39 was paid from State appropriations, with \$54,836.43 certified to the various counties of the State for payment.

Under the head of equipment is included not only the purchase of new equipment, but also the costs of operation of the Bureau of Machinery, which handles, distributes and maintains State motor trucks and other equipment.

Of the total money expended as shown by previous statement, \$109,642.84 was expended from the balance of the Fiftieth General Assembly Omnibus appropriation and from the Fifty-first General Assembly Omnibus appropriation. Six hundred and thirty-seven thousand, six hundred and fifty-seven dollars and six cents was expended from the State appropriations for State aid and \$6,970,703.62 was expended from the State appropriations made for Federal aid purposes.

During the fiscal year ending June 30, 1920, there has been collected from the rental of trucks, cement inspections, transportation claims, and miscellaneous items of various kinds, \$27,152.61 which has been deposited with the State Treasurer.

The expenditures of this division are practically half of the total moneys expended by the State of Illinois, thus indicating the very large volume of work handled by the Division of Highways.

The following statement presents the condition of appropriations on June 30, 1920:

Appropriations.	Balance June 30, 1919.	New appropriations July 1, 1919.	Expended to June 30, 1920.	Balance in fund June 30, 1920.	Lapsed to treasury October 1, 1919.
Fiftieth Omnibus.....	\$ 59,876.78		\$ 16,901.43		\$42,975.35
Fifty-first Omnibus.....		\$187,780.00	92,741.41	\$ 95,038.59	
State aid.....	937,812.47	200,000.00	637,652.06	500,160.41	
Federal aid.....	1,003,432.12	14,500,000.00	6,970,703.62	8,532,728.50	
Total.....	\$2,001,121.37	\$14,887,780.00	\$7,717,998.52	\$9,127,927.50	\$42,975.35

Of the total expended under Federal aid, \$6,123,693.77 was expended from State appropriations for Federal aid construction purposes, on which \$2,220,981.35 has been received as a reimbursement from the United States Government.

The State aid and Federal aid appropriations are payable from the collection of motor license fees which are deposited in the road fund in the State Treasury. It will be noted that while the balance in the appropriation under State aid and Federal aid amounted to \$9,032,888.91, there was only an actual balance of cash on hand in the State Treasury in the fund on that date of \$4,814,506.93—the balance of the appropriation being in anticipation of the collection of future motor license fees. It will also be noted that the average monthly expenditures for State aid and Federal aid purposes during this fiscal year amounted to \$634,029.64.

DIVISION OF WATERWAYS

WILLIAM L. SACKETT, *Superintendent*

Getting approval of plans for the Illinois waterway from the Chief of Engineers of the United States Government and a permit from the Secretary of War for construction of the project is the outstanding achievement of this division for the year. The dream of a century is about to be realized.

The project requires the improvement of the DesPlaines River from Lockport, the terminus of the Chicago Sanitary District channel, to the headwaters of the Illinois River at Dresden Heights, about 10 miles east of Morris, and of the Illinois River from that point to Utica, to connect with present navigable waters of the Illinois River.

Application for Federal approval was first made in July, 1915. For reasons stated in the report of this division for the year ending June 30, 1919, the Chief of Engineers refused to approve plans and the Secretary of War refused to authorize construction.

New legislation was necessary to meet objections of Government engineers. Governor Lowden presented the situation in detail in his message in January, 1919, to the Fifty-first General Assembly. A comprehensive law was enacted, which became effective July 1, 1919.

Immediately, necessary preliminary maps and plans were prepared by engineers of the division. Formal application to the Chief of Engineers for approval of plans, as authorized by the law of 1919, was made by Governor Lowden July 30, 1919.

In September, Government engineers indicated disagreement with the plans submitted, and called for additional information. This resulted in extended correspondence and delay in Government action. In November, Frank I. Bennett, director of the department, William L. Sackett, superintendent of the division, and M. G. Barnes, chief engineer, visited Washington for a conference with Government engineers. The latter objected to the plans because of the long-standing controversy with officials of the Sanitary District of Chicago relative to excess diversion of water from Lake Michigan for sanitary purposes, and claimed the plans submitted made the waterway dependent upon a diversion from the lake in excess of the flow Government engineers insisted should be adhered to.

It required but a short time to convince the Chief of Engineers an error had been made in submission of data to him by those to whom he had referred State plans for check, and that the State had submitted plans that made navigation of the proposed waterway in no way depend-

ent upon any diversion of water from Lake Michigan. The controversy between the Government and Sanitary District of Chicago, as to diversion of water, is still undetermined. Judge K. M. Landis, of the United States District Court, Chicago, June 19, rendered a decision holding the district was unlawfully diverting more water than authorized. If, on final hearing, diversion is restricted to a flow of 4,167 c. f. s., as fixed in the original temporary permit of the Secretary of War in 1901, a serious condition arises, affecting not only health and purity of water supply in Chicago, but the entire Illinois valley which requires careful and immediate serious consideration and drastic protective legislation.

FIRST GOVERNMENT PERMIT

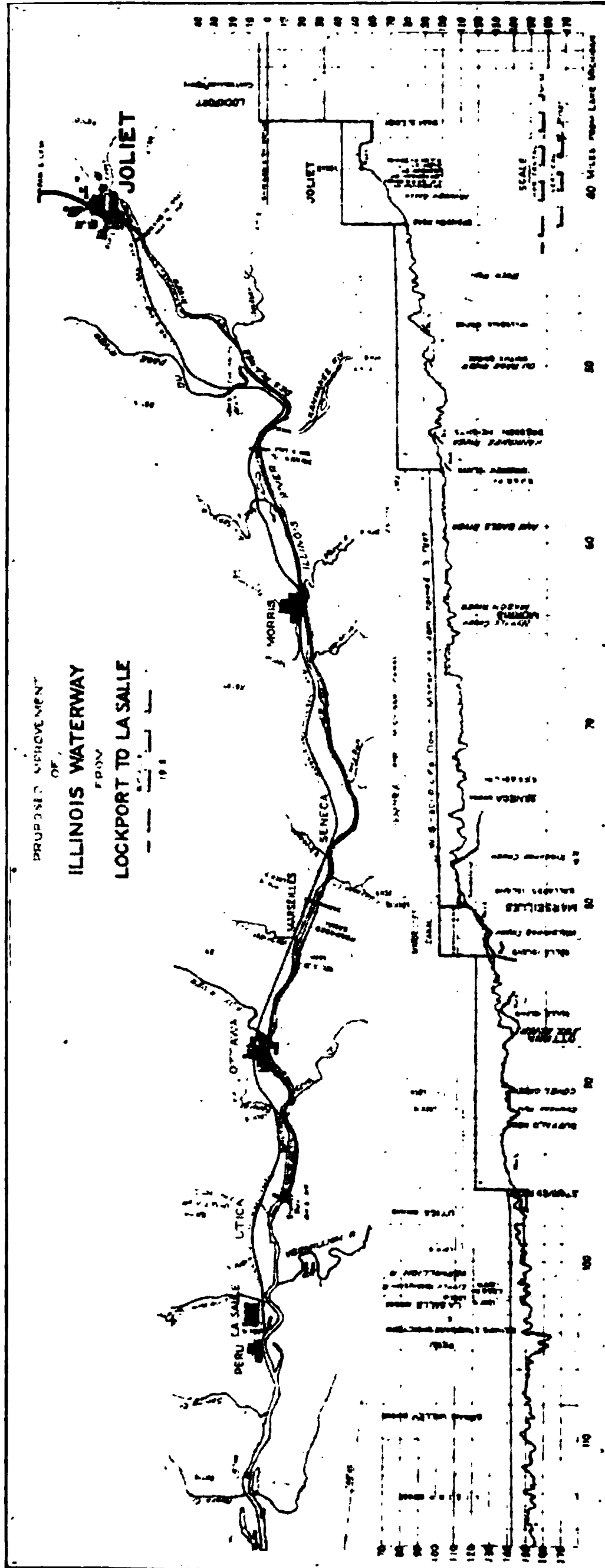
Approval of plans by the Chief of Engineers and permit for construction of the Illinois waterway project by the Secretary of War were given January 6, 1920. Restrictive conditions in this permit were unsatisfactory to officers and engineers of this division. An application for change and modification was made. A hearing was arranged at Washington with the new Chief of Engineers, Lansing H. Beach, in February, 1920, the State being represented by William L. Sackett, superintendent of waterways, M. G. Barnes, chief engineer, and James H. Wilkerson, attorney of Chicago, who had represented the Government as United States District Attorney in the case against the Sanitary District of Chicago relative to water diversion from Lake Michigan, the objectionable conditions in the permit received being based upon this controversy.

The changes and modifications asked by the State were agreed to, and a new approval of plans and permit for construction issued under date of March 6, 1920.

Preparation of detailed plans, a necessary preliminary to letting contracts and actual construction work, involved so great an expenditure, it had been the settled policy of the division that this work should not be undertaken until there had been favorable action by Government, engineers and the Secretary of War.

Having been assured in November, 1919, at the conference on plans submitted, of favorable action by Federal engineers, the division then prepared for rushing engineering work and completing plans by organizing an engineering force of well known men of special qualifications for the various branches of the work. Therefore, upon receipt of the revised Federal permit of March 6, 1920, engineering work was progressing rapidly. It was decided first to complete plans for the lock required at Marseilles and the auxiliary channel at that point deemed expedient to best serve the needs of navigation and conserve revenue to the State by additional water power development. It is expected plans will be completed to permit letting of contracts not later than October, 1920.

MAP SHOWING PROPOSED ILLINOIS WATERWAY FROM LOCKPORT TO LASALLE



MANY DIFFICULT PROBLEMS

Many difficult problems are presented in connection with construction of this great project, to overcome which will require diligent and persistent application and hard work. To satisfy people of communities on the immediate line of work as to local conditions will, in some instances, be difficult—not that the division will not make every effort to afford complete protection where municipal work is affected, but because of the demand in connection with this work that the State assume expense in no way legitimately connected with this great enterprise.

Effort has been made for amicable adjustment of claimed power development situations and for the purchase of land necessary for right-of-way and flowage. Large corporate interests, as well as individuals, are to be dealt with. Division officers, while making every effort to deal fairly, must, nevertheless, first serve and protect public interests. Differences of opinion have arisen as to values, which perhaps can only be settled by resort to the courts and condemnation proceedings. This may delay work at some points several months. Options for right-of-way immediately necessary, it is believed, can be obtained at fair prices. It is the plan of the division to ascertain by survey what land is required for flowage, or what will in any way be damaged, and purchase it before starting work.

CONTRACT PROTECTS STATE

The division has been commended for the form of contract to be used in connection with construction work. The contract, initiated by M. G. Barnes, chief engineer, was prepared to meet present uncertain conditions of labor and cost of material. To insure the contractors adequate protection from loss and to preclude claims for "extras," because of change in labor and material conditions, the contract provides, in the event of increase of unit prices after execution, the State shall pay 80 per cent of the increase and the contractor 20 per cent. On the other hand, if there be a drop in prices, the State and contractor are to share equally in the saving. Government engineers, as well as others, have evinced considerable interest in this form of contract, heretofore unknown, and have commended it highly. Heads of surety bonding companies have also expressed belief that such a contract will not only invite greater competition in bidding, but insure against possible bankruptcy resulting from contingencies which might arise because of the unsettled conditions everywhere apparent.

PRESENT CONSTITUTIONAL RESTRICTIONS

The division has devoted much time and thought to the work of the Constitutional Convention and inclusion of an article in the new constitution that will meet present conditions and permit the State in the future properly to maintain and protect its canals and waterways.

The present Constitution, adopted in 1870, provides that the credit of the State shall never be loaned to canals or railroads. Adoption of this provision is generally credited to railroad influences in opposition to development of waterways and canals, fearing competition of that kind. Following the Civil War, demand for transportation was insistent. Railroads were seeking state-aid and land grants. They were undeveloped. The Illinois and Michigan Canal had been a successful factor in handling commerce and paying revenue to the State. Plans for many projected canals were presented.

The State, therefore, had been unable either to maintain adequately or protect the Illinois and Michigan Canal. Only revenues obtained as the result of actual operation for navigation or rentals from portions of its right-of-way could be used for maintenance or repairs. Up to 1889, revenues proved ample to maintain the canal in a reasonable state of repair. Work of the Chicago Sanitary District, organized by act of the legislature, greatly interfered with operations of the Illinois and Michigan Canal between Chicago and Joliet, and when the Sanitary District channel was opened in 1900, giving boats opportunity for navigation from Chicago to Joliet without payment of tolls, it deprived the State of a revenue of upwards of \$25,000 a year for tolls on that part of the canal alone, and took from the State a water power revenue at Lockport of about \$15,000 a year more, all of which had provided a fund that met ordinary repairs and maintenance, although insufficient to rebuild and enlarge locks to meet the larger carrying capacity of developing railroads.

In 1908, by vote of the people, an amendment to the present Constitution was adopted providing for the issue of bonds for \$20,000,000 for construction of the Illinois Waterway from Lockport to Utica and development of water power in connection with its navigation opportunities. It is estimated water power revenue to the State will be from one to two million dollars a year, and this will not only pay the original cost, but in years to come will prove a continuing source of cash return, not estimating its intangible value as an asset in the development of the State.

NEW CONSTITUTIONAL PROPOSALS

Difficulties of administration and protection of State property, maintenance and operation of the Illinois and Michigan Canal, and the general plan of the Illinois Waterway project have been presented to the Constitutional Convention, which convened last January.

The officers of the division devoted several weeks to this work. The following have been reported to the Convention as proper constitutional provisions to meet the difficulties experienced by the State in the past in taking care of its property and for the protection of that which may be developed or acquired in the future:

Section 1.—Bonds in the sum of twenty million dollars heretofore authorized under and pursuant to an amendment to the Constitution of 1870, ratified by the voters on November 3, 1908, and proclaimed adopted November 24, 1908, for the construction, maintenance and equipment of the Illinois Waterway and its appurtenances, when issued and sold, shall be valid obligations of the State, and the proceeds thereof shall be applied to the purposes for which they were authorized.

Section 2.—The General Assembly may make either additional appropriations or may authorize bonds to be issued and sold for the construction, maintenance, operation, extension, enlargement or equipment of the Illinois Waterway, or its appurtenances, in addition to the bonds heretofore authorized; but the aggregate amount of all such additional appropriations and bonds, except as otherwise provided in section 3 of this article, shall not exceed ten million dollars, unless the law making such appropriations or authorizing such bonds shall first have been submitted to a vote of the people of the State at a general election, and have been approved by a majority of all the votes polled at such election.

Section 3.—The gross or total proceeds, receipts and income of the Illinois Waterway and its appurtenances, and of the Illinois and Michigan Canal, may be appropriated or pledged for the construction, maintenance, operation, extension, enlargement, or equipment of such waterway and its appurtenances, or of such canal.

Section 4.—No waterway or canal owned or improved by the State shall be sold or leased, except as provided herein, until the specific proposition for the sale or lease thereof shall have been submitted to the electors of the State and approved by a majority of those voting at the election.

Section 5.—The General Assembly may authorize the lease of the Illinois and Michigan Canal, or any part thereof, for purposes of transportation, or to provide terminals in connection with the Illinois Waterway or other navigable channel. Such terminals shall be for public use upon equal terms.

Section 6.—No appropriation for the Illinois and Michigan Canal shall be made from the State Treasury, except for the maintenance and preservation thereof, from any fund other than the special fund in the treasury arising from the proceeds, receipts and income of such canal.

Section 7.—Leases for water power shall be subject to a revaluation for each twenty years of the term created.

WHY PRESENT CONSTITUTION SHOULD BE CHANGED

It was suggested that section 1 should be adopted for the reason that the waterway policy of the State has been fixed by the amendment to the present Constitution authorizing the issuance of bonds in the sum of \$20,000,000 and enactment by the legislature in 1915 providing for the construction of the waterway.

In 1919 the law now in force was enacted to obviate objections raised by Federal engineers and the Secretary of War to details, size of locks and engineering features of the 1915 law. The plans provided under the present law have been approved as being in harmony with the policy of the Federal Government for the improvement of the rivers of the middle-west, the Secretary of War has issued permit for construction of the waterway, and the State is ready to start actual construction.

By the provisions of section 2, the General Assembly would have authority to make appropriations for an additional amount for waterway

purposes, not exceeding \$10,000,000, without vote of the people. It was deemed wise to give the legislature this additional authority for the reason that present prices are much in excess of those existing in 1914 and 1915, and unless there should be material reduction in costs, the waterway necessarily will require the expenditure of from three to five million dollars more. By fixing a limit of \$10,000,000 on the power of the legislature, it was conceded that public interests would be amply protected. This would insure completion of the plans of the State, and definitely fix the limit of appropriations within a reasonable amount. When the article is submitted the people will have opportunity to vote on the proposition.

Sections 3 and 4 are practically the same as in the present Constitution.

Section 5, if adopted, will enable the State, through the General Assembly, without submitting the proposition to a vote of the people, to lease portions of the Illinois and Michigan Canal between Lockport and Chicago not now essential for purposes of navigation, to be utilized in a general plan for terminal facilities and interchange of freight from railways to the waterway.

The right-of-way of the State extends to the Chicago River and is along the Sanitary District Canal which will be used for navigation. The State has suitable property upon the Chicago River and upon both canals to provide docks, wharves, terminals, and freight houses. By the terms of this section it is provided that these terminals shall be maintained for public use upon equal terms. A very small charge for their use, or for the use of loading or unloading facilities in the transfer of freight, would undoubtedly bring a very large revenue to the State after such terminals were established and in operation.

Section 6 of the proposed article must be read in connection with section 3.

It would seem wise that the State, through the General Assembly, should be placed in a position where it could care for and preserve its property, valued at several millions of dollars. By this section the General Assembly would have power to protect this State property as it protects its other physical property.

Section 7 of the proposed article provides for a revaluation of water power leases every 20 years instead of every 10 years, as provided by the present Constitution. After very careful consideration and study of this problem, the conclusion has been reached it would be more to the interest of the State to have a 20-year period for revaluation.

Under the legislative enactment of 1919, authorizing leases of water power, the period was fixed at 30 years. In recent legislation by Congress for the development of water power throughout the country, the period for leases is fixed at 50 years without provision for revaluation during that time. The right is reserved by the Federal Government to

take over the power at the end of the 50 years upon payment of the appraised value, or upon the amount of cost of the development, or the leases may be extended another 50 years. The legislature followed this plan for the State, but fixed the period of time at 30 years instead of 50.

It is believed it would be a serious handicap and prevent returns of the fullest revenue to the State to require a revaluation each 10 years. This would be true especially if the policy of the State in future was to lease the water or site for development instead of doing the developing itself. - This development initially would require a considerable expenditure. Inasmuch as the State does not contemplate going into the business of transmitting light, heat or power, but expects to obtain the revenue that will be afforded by the construction of the waterway by leasing either the water and site, or the generated energy at the plant, it is believed that those municipalities and industries or transmission companies which may be interested in this situation should be given a reasonable time in which to turn over the investment, and that any period less than 20 years will prove a handicap to the State in meeting competitive and market conditions.

M. G. Barnes, chief engineer of the division in charge of waterway construction, submits the following report of engineering work for the period from July 1, 1919, to June 30, 1920:

REPORT OF CHIEF ENGINEER

Owing to the uncertainty of War Department action on the permit for this project and possible action of the Illinois Constitutional Convention, it had been decided to obtain only the nucleus of the engineering organization required for the preparation of plans and the construction of the Illinois Waterway, this nucleus to include specialists for the heads of departments who, from many years of experience in similar work, could assist and advise in the solution of the engineering problems involved and perform any work in connection with the preparation of plans and specifications.

The men so employed during the year, their present positions or titles, principal duties, and so much of their previous experience as peculiarly qualifies them for such duties, are as follows:

J. B. Bassett, division engineer: duties, supervision of work from Marseilles to Starved Rock; experience, fifteen years as assistant engineer, U. S. Engineering Department on the construction and operation of lock-waterways.

Murray Blanchard, hydraulic engineer: duties, hydraulic investigations in connection with water power development, flood heights, and channel requirements; experience, five years on surveys and canal construction for U. S. Government, three years on water power development, five years on gaging of St. Lawrence, Detroit, St. Clair and St. Mary's Rivers for U. S. Government, three years on hydraulic investigation of drainage canal for the Sanitary District of Chicago.

L. D. Cornish, assistant chief engineer: duties, as demanded by this title or designated by Chief Engineer; experience, seven years lock and

dam design and construction on the Ohio River for U. S. Engineering Department; six years as designing engineer of locks and appurtenances for the Panama Canal.

Walter M. Smith, designing engineer: duties, in charge of design and preparation of plans for locks, dams and structures appertaining thereto; experience, fourteen years on design and construction of river and harbor works for U. S. Engineering Department; two years on design and construction work for Isthmian Canal Commission and Ordnance Department of the Army; six years as designing engineer of dams, bridges and conduits for Board of Water Supply, New York City; one year private practice on design and construction of hydro-electric plants; five years in charge of designs of flood prevention works for Miami Conservancy District, Dayton, Ohio.

Sutton Van Pelt, construction engineer: duties, general charge of construction work and field representative of the Chief Engineer; experience, four years on construction of water power project at Sault Ste. Marie, Michigan; eight years on construction of locks, dams and channels for the U. S. Engineering Department, on Warrior River and at Sault Ste. Marie, Michigan; two years on construction of harbor improvements; three years as manager of construction for contractors on roads, bridges and sewers.

The engineering force at the end of the fiscal year consisted of the Chief Engineer.

5 Engineers mentioned above.

3 Assistant Engineers.

4 Draftsmen in the designing division.

1 Assistant Engineer in the field.

4 Men in survey party all in the field.

7 Men in drilling crews all in the field.

Office Work Accomplished.

The force has prepared new maps, plans, cross-sections, and computations, and compiled general information on which Government officials could base their action relative to the application for permit for construction of the Illinois Waterway.

Plans and specifications were completed for the letting of contract for the Marseilles Lock.

Studies and investigations were completed for the general features common to all locks, including walls, filling and emptying system, valves, miter sills, mitering gates; also valve and mitering gate machinery.

About 50 per cent of the designing and drawing for the Starved Rock lock and dam and Marseilles Canal and dam contracts has been completed.

A considerable part of the designing and drawing has been done for mitering lock gates and operating machinery, culvert valves and operating machinery, and Taintor gates and operating machinery.

Extended studies have been made of water power rights along the route of the waterway owned or controlled by various power interests. The amount of power available, its cost of development, and its relation to the waterway project have been determined.

The following list of standard size drawings has been completed:

56 Original designs.

45 Detailed design tracings.

21 Topographical maps from surveys.

- 19 Finished topographical tracings.
- 13 Drawings of important studies.
- 14 Plans and cross-section sketches for estimates.
- 13 Miscellaneous drawings.
- 181 Total drawings.

Features of Design.

In the designs for this project an effort has been made to incorporate therein the best features of previous practice, and to eliminate such features of existing locks as have proven unsatisfactory or of doubtful value compared to their cost. The studies made have resulted in the adoption for this waterway of certain features of design, a brief discussion of which it seems desirable should be made a matter of record in the annual report.

The determination of the exact stresses existing in lock walls containing large circular openings is a difficult problem, and in the past two methods of analysis, which give approximate stresses, have been used and the wall sections resulting therefrom, as constructed on the Panama and New York barge canals have proved that these analyses result in safe designs.

One of these methods is the old arch analysis which assumes a design, safe if a line of thrust can be found which is confined to the middle third of all assumed radial joints. The other method is based on the assumption that the sides of the culvert act as elastic columns restrained at top and bottom. The wall designs adopted for the Illinois Waterway have been checked by these methods, but the designs are based on the "least work" method for the analysis of arched structures as described by articles by Walter M. Smith, in the Engineering Record of October 10, 1914, and May 22, 1915. It is believed that the "least work" method, while more laborious, is the most accurate way of determining the stresses, and it results in more economical designs.

The filling and emptying system shown on the plans submitted to the War Department was similar to that adopted for the Panama Canal and the Keokuk Lock on the Mississippi, and, in general, similar to the locks at the "Soo."

Since the construction of the above mentioned locks, several technical papers have been written on the subject of lock filling devices and experience in actual operation has been obtained. From such information it seems evident that this system possesses no material advantages and, in fact, is less satisfactory for inland waterways than the system of filling directly through the side walls, which plan has been adopted for this work with a resultant saving in construction of about \$25,000 per lock.

It has heretofore been customary to make the culvert opening at the valve chambers equal to or larger than the culvert itself. Such designs, for large culverts, result in unnecessary cost of construction and accomplish no good purpose. In these designs the principle of the Venturi

meter has been utilized, permitting the use of smaller and, therefore, lighter and cheaper valves. Reports show that a flow coefficient of 1.32 has been obtained for valve openings constructed with 28 feet of water. A coefficient of 1.15 has been assumed for the flow computations of locks for the Illinois Waterway.

For practical reasons the rate of change of water levels usually is limited to about 4 feet per minute. With this limit the velocity in the 12-foot diameter culverts would be about 22 feet, and in valves 9 feet square about 30 feet per second. The velocity head to create this velocity in the culverts is 7.5 feet and to create the 30 feet velocity through the culvert valve there will be a loss of 14 feet, or a difference of 6.5 feet. Herschel's experiments on Venturi meters show that the loss of head is one-ninth, which for this case would be about 9 inches, which loss rapidly decreases as the lock fills. The loss of head due to the smaller valve increases the time of filling less than one minute, and it is believed the time lost is of little consequence and fully compensated for by the decreased cost of the smaller valves and machinery. With this design and the 4 feet per minute limitation, the time of filling or emptying a lock will range from 7 to 12 minutes, depending upon the lift or head, and the combined time for filling all 5 locks will be about 44 minutes.

It has heretofore been the custom in the design of mitering gates to permit close contact and heavy bearing between the lower gate girders and miter sill. The result of such a design does not permit an accurate and scientific design of either the lock gate or miter wall. Both must be designed unnecessarily strong to withstand unknown loads. This has been remedied by placing a metal sealing spring on the gate which alone will be in contact with the miter sill when the gate is closed, and which cannot transmit to the sill more than part of the pressure due to the water in contact with the spring. This permits a more accurate and lighter design of both gate and miter wall and results in decidedly lower costs. A further economy in the miter wall results from the adopted design and analysis of same as a horizontal arch instead of the usual design of the gravity type retaining wall.

A thorough investigation of the various types of gates for movable dam structures indicates the desirability of the general adoption of Taintor gates of the single truss or hammer head type. The advantages of Taintor gates lie in the slightly lower cost of the entire dam structure, including the piers and machinery, the greater ease of counterweighting, and the fact that this type of gate is more certain of easy operation under ice conditions.

Mitering gates of large size have usually been designed with flat plate skins on both the up-stream and down-stream side. Investigation develops that the double skin type possesses no material advantages, except where air chambers are required for buoyancy effect to reduce the operating stresses on the pintles and yoke pins. The use of buckle plates

results in smaller costs than for flat skin plate design, and has been adopted. Single skins on the down-stream side have been adopted except for the lower 15 feet of the lower gates at Lockport, and Brandon Road, for which air chambers are advisable.

New Form of Contract.

The usual type of unit price lump sum contract is unsatisfactory on account of the disinclination of contractors to assume the risk involved under present labor and material price conditions. The cost plus profit contract is much desired by contractors, but is not to the interests of the State as there is not sufficient inducement for the contractor to keep down the cost.

To cover abnormal labor and material conditions, the contract and specifications have been so drawn that the contractor will base his bid on prices of labor and materials scheduled therein. A provision is made whereby the State assumes 80 per cent of the cost of labor and material in excess of the maximum prices scheduled, and the contractor assumes the remaining 20 per cent. Another provision of the contract stipulates that the contractor and State shall share equally in all saving due to prices being below the minimum prices scheduled. It is believed that owing to these provisions there will be more competition for the contracts and lower bids will be obtained.

Field Work Accomplished.

To obtain stream data for designing purposes, a gauging station was established at Morris; cross sections of the Illinois River from Bell's Island to Ottawa were taken at stations 500 feet apart, and levels were run to establish the surface slope of the DesPlaines River from Joliet to Dresden Island and also for several miles above and below the Marseilles dam.

One survey party has been continuously engaged in work required in connection with existing or claimed power rights and for the acquisition by the State of land for construction purposes and of land which will be overflowed by reason of proposed construction of dams. Progress on this work has been handicapped from a lack of public data relative to location of section corners, and taking this and the small survey party into consideration, the progress has been fairly satisfactory. Assistant Engineer M. C. Lewis, who is in local charge of work for land appropriation, states the work would have progressed very slowly indeed had it not been for the extreme courtesy and able assistance gratuitously rendered by Mr. William H. Irwin, county surveyor of LaSalle County, who placed his files, records and personal knowledge at the service of the State.

Drilling Operations.

During the year drilling operations were inaugurated to determine if suitable rock for foundation purposes existed at the proposed locations

of structures. Such work has been completed for the Marseilles lock, and 60 per cent completed for the Starved Rock lock and dam sites, and the location of the Marseilles canal and islands in the Illinois River above Ottawa were likewise investigated to obtain data for the estimate of rock excavation.

This work was performed under contract by the Pennsylvania Drilling Company, and was the only contract work performed during the fiscal year. The first contract with this company, dated October 20, 1919, was for making diamond drill borings at the Marseilles lock site. Twenty holes were drilled, and the contract was completed in December, 1919. A supplementary contract for the Marseilles canal borings was entered into in December, 1919, and completed in January, 1920, under which 11 holes were drilled. The material found was generally clay overlying a shale formation. The results obtained were satisfactory. All equipment, labor and services for these contracts were furnished complete by the contractor.

On March 11, 1920, another contract was let to the same company for 3,000 linear feet of core borings to be made at the Starved Rock, Brandon Road and Dresden Island lock and dam sites. In this contract the contractor furnished and maintained the drill outfits at a unit price per foot. Floating equipment, labor, gas, oil, supplies, and other expenses were to be paid for directly by the State. Owing to the varied conditions, the spread of locations, and extra equipment needed, it was deemed to be for the best interest of the State to do the work and pay for it in this manner.

Drilling on this contract started at Starved Rock on May 19, 1920. To the end of the fiscal year 607 linear feet of holes, or about 20 per cent of the contract, was completed. The rock encountered at Starved Rock was sandstone underlaid by limestone, which latter contained considerable quantities of small, flinty particles, which were exceedingly destructive to the diamonds in the bits, the damage being due to breakage of diamonds. It is expected that this contract will be completed by December 1, 1920.

M. G. BARNES, *Chief Engineer.*

ENCROACHMENTS

Investigating complaints of and preventing encroachments upon streams has required much time and attention of the division.

Unauthorized encroachments upon Lake Michigan have been practically stopped. Many serious problems in this connection have been presented. Several applications for permits have been denied as not being in the public interest. At some points encroachments have reduced the capacity of the streams to an extent preventing proper disposal of flood waters and damage has resulted.

The division has required removal of encroachments on the Kankakee and Fox Rivers at various points. A material narrowing of the

Rock River, near Morgan Street, Rockford, and above, by encroachments beyond the shore line established by the Federal Government in 1912, caused apprehension of damage and presented a situation that might easily lead to loss of life as well as property following an unusually heavy rainfall. A somewhat similar condition, but more extended territorially, caused the Dayton flood.

The division sought agreement with all violating the law at this point by which the encroachment would be removed and criminal prosecution avoided. Permits have been issued and work has been done in three cases. The city of Rockford and one corporation have constructed substantial shore walls which will preclude any further encroachment beyond the established shore line. Another company has removed the encroachment to the shore line agreed upon, but owing to high costs and transportation handicaps could not complete the wall.

In one case suit to impose penalties for violation of law and to compel removal of the encroachment will be necessary. There will be other cases if pending negotiations shall fail in reaching satisfactory agreements.

In most cases of complaints of this character hearty cooperation has been given the division. Its engineers have given valuable assistance in surveys and locating shore lines. Many encroachments have been made without knowledge of flood dangers or damage, and the work of our engineers and information given the public have been of great value.

As a result of the activity of the division and continuous inspection of the lakes and streams of the State by its own representatives, assisted by representatives of the Division of Fish and Game, the provisions of the law enacted by the Fifty-first General Assembly for control of streams are proving effective.

WHAT THE LAW PROVIDES

The law provides:

It shall be unlawful to make any fill or deposit of rock, earth, sand, or other material, or any refuse matter of any kind or description, or build or commence the building of any wharf, pier, dolphin, boom, wier, breakwater, bulkhead, jetty, or other structure, or to do any work of any kind whatsoever in any of the public bodies of water within the State of Illinois, without first submitting the plans, profiles and specifications therefor, and such other data and information as may be required, to the Department of Public Works and Buildings of the State, and receiving a permit therefor signed by the Director of said department and authenticated by the seal thereof; and any person, corporation, company, city, or municipality or other agency, which shall do any of the things above prohibited, without securing a permit therefor as above provided, shall, upon conviction thereof, be fined in a sum not exceeding five thousand dollars or be imprisoned in the county jail not exceeding one year, or may in the discretion of the court be punished by both fine and imprisonment. Any structure, fill or deposit erected or made in any of the public bodies of water of this State, in violation of the provisions of this section, is hereby declared to be a purpresture and may be abated as such at the expense of the person, corporation, company, city, municipality, or other agency responsible therefor.

Section 23.—It shall be the duty of the Department of Public Works and Buildings to maintain stream gauge stations, and to make careful investigations of the streams of the State with reference to the carrying capacity of all such streams in times of flood and under normal conditions; to prevent the carrying capacity of streams to be limited and impaired by fills, deposits, obstructions, encroachments therein or bridges over same, to an extent where the same cannot safely dispose of the flood waters which may naturally, lawfully and properly be discharged therein; to require such changes in bridges across any navigable waters or streams, or bodies of water made navigable, necessary to meet the demands of navigation and commerce thereon. If the capacity of any stream is limited and impaired by reason of any of the acts or construction in this act provided, so as to constitute a menace to property along the course of said stream or safety of the people of the State, or results in damage, overflow, or an interruption to navigation, said Department of Public Works and Buildings shall take such action as may be required, by injunction or otherwise, to prevent such encroachments or the erection of such structures, or compel the removal or modification of same. It shall be unlawful for any person, persons, corporations, counties, cities, municipalities, or other agency to make any fill, deposit or encroachment in, or erect any bridges, over any of the streams of this State, until plans, profiles and specifications, and other data which may be required, have been first filed with the said Department of Public Works and Buildings of this State, and a written permit received therefor.

The Department of Public Works and Buildings is authorized, in case of existing dams, to require said dams to be maintained in a proper state of repair and at a height for proper control of water levels in the disposal of flood waters and at normal stages, and for such purposes to require changes and modifications therein, and to compel the installation of fishways in existing dams wherever deemed necessary.

Submission of plans gives the division knowledge of proposed work, opportunity for investigation, and enables its engineers to determine whether private or public damage will result.

COMPLAINTS OF STREAM POLLUTION

Several complaints have been received of pollution of streams in various portions of the State. Considerable time and exhaustive investigation are necessary to get facts in many cases. Others require preventive methods easily provided.

Complaints of pollution in the State arise from the discharge of industrial or waste products, or of sewage from municipalities, into small streams where the flow of water is insufficient to carry the load or give adequate dilution.

Serious problems are involved in sanitary sewage disposal. Stream pollution is depriving the public of legitimate use of the waters therein. For years streams, not only in Illinois, but in many states, have been accepted as a natural means of sewage disposal. Increased development and growth of population has resulted in a load of sewage or industrial waste that the streams can no longer carry with due regard to public health or to the use of the streams for stock on the farms.

Several states have laws requiring sewage treatment to avoid stream pollution. Such laws would be a progressive step in Illinois of great

public benefit. Interest is gradually being aroused among the municipalities of the State, and a number of them with progressive officials are trying to provide sewer systems with modern methods of treating and separating solids so there will be no objectionable effluent going into streams of the State. Not only are sewage treatment plants necessary, but there must be efficient operation. There are over one hundred municipalities or plants in the State today having sewage treatment plants of varying types. Many of these do not receive proper care, nothing is done to keep them in repair and operation is under incompetent direction. Sewage treatment plants cannot be expected to operate without care and attention. Engineers of this division have and will be assigned whenever so requested, to indicate repairs required for proper operation and to instruct men in charge as to proper methods of operation.

This division renders all engineering assistance possible. All communities have a class of objectors who make difficult real progress in these matters. The division will be compelled, in case of failure to accomplish satisfactory results by negotiation, to request suits to abate nuisances resulting from insanitary methods of sewage disposal.

MODERN METHODS AT DECATUR

This division cites the city of Decatur as one municipality where the people have awakened to a realization of the seriousness of sewage disposal. Water supply for domestic and manufacturing use is a stimulating factor in solving the sewage disposal problem. Complaints of the method of disposal of sewage into the Sangamon River by Decatur were filed with the State, resulting in an order to discontinue the practice.

Decatur has a population of about 50,000. Its sewage flow is about 5,500,000 gallons per 24 hours. Included in this is about 1,250,000 gallons of strong industrial waste from a starch factory, exclusive of condenser water. There is also included the sewage and wastes from a creamery, packing house and gas-works. The city sewage, without the industrial sewage, has a biological oxygen consumed value of 171 p. p. m. The minimum required volume of diluting water for the latter figure is about 40. Sewage treatment is required because during three or four months in the summer the entire flow of the Sangamon River is used for the water supply of the city and is subsequently turned back into the stream as sewage. This creates an open sewer passing by the city and continuing in a lessening degree for twenty miles below.

Even with the use of the whole dry-weather flow the river is insufficient for the water supply needs of the city and consequently a large storage dam is under construction. This will afford water for sewage dilution also.

Attention of this division was directed to the work of the city by submission of plans for the storage dam and application for permit. Changes in construction were suggested by State engineers to strengthen

the structure and insure protection to life and property. The division gave its cooperation in settling disputes and insuring protection to property and payment of damage. The division believes this a case where the requirements of the present law were found of value in protecting community and public interests.

The division suggests that all Illinois cities having a sewage disposal problem to meet can get much valuable information from the experience of Decatur.

A number of special tests of sewage treatment processes have been made. A testing station comprising an Imhoff tank and sprinkling filter with appurtenances, was built in 1914 and operated during 1914, 1915, and 1917. During 1917 small-scale tests were made of the activated sludge process on the mixed sewage, and in 1919 a testing station was built and operated to try the activated sludge process on the crude starch works sewage. It was found that the activated sludge process is applicable to the mixture of city and starch works sewage, but not to the starch works sewage alone. The tests also showed that Imhoff tanks removed 50 to 60 per cent of the suspended solids from the mixed sewage, and that sprinkling filters operating with settled sewage at a maximum rate of 1,000,000 gallons per acre per 24 hours would produce a 90 per cent stable effluent.

Final decision has not been made of the particular type of treatment plant that will be used. The total improvement will cost approximately \$2,000,000.

IMPORTANCE OF STREAM GAGING RECORDS

During the fiscal year ending June 30, 1920, the Division of Waterways, in cooperation with the U. S. Geological Survey, maintained 25 gaging stations on the principal rivers in the State. At each of these stations a continuous record of the daily stage and flow was obtained. These records have a number of valuable uses. By means of two of the stations the amount of water being diverted from Lake Michigan through the Sanitary Canal is determined. Records are also collected on the principal streams tributary to the Illinois River, thus giving a complete inventory of the flow of the stream, a most vital factor in determining the amount of power that can be developed at the proposed water power plants in connection with the waterway.

Streams in the southern part of the State frequently overflow their banks, inundating large tracts of fertile land and inflicting heavy damage on the crops. Surveys and tentative plans for improving several of these streams have already been made, and as the price of farm lands increases others undoubtedly will be made. In planning these improvements it is essential to know the frequency, duration, and magnitude of the floods, as well as the ordinary and low flows. These data are obtained by the gaging stations on the most important streams in that section. The same is true of streams in the northern part of the State.

The records of flow of streams are of great value. The division has many calls for them and its engineers are frequently called upon to produce them in settlement of disputes. They also preclude construction that will prevent disposal of flood waters resulting in overflow and damage.

ILLINOIS AND MICHIGAN CANAL

There has been a gratifying increase in navigation and transportation over the Illinois and Michigan Canal and Illinois River during the period from July 1, 1919, to June 30, 1920. This in spite of inadequate size of locks and extensive damage by unusual flood conditions in March, April and May of 1920, which prevented use of the canal the first three months of the navigation season, and damage by cyclone in July, 1919, which obstructed portions of the canal a month during the season of greatest demand for navigation. All this required an unusual expenditure for maintenance, but earnings have been sufficient to pay it.

A flood March 24, 1920, destroyed 65 feet, or about one-third of a retaining dam at Channahon in the DuPage River. This prevented maintenance of water levels in the entire canal west, a distance of 50 miles, stopping all navigation. Continued high water for six weeks prevented reconstruction work until June 14. It will require at least six weeks for contractors to complete it.

April 26, 1920, a cloudburst and flood did considerable damage to canal banks and a large culvert at Marseilles, requiring extensive repairs and adding materially to maintenance expense.

In October, 1919, buildings and locks at Copperas Creek in the Illinois River were repaired. The dyke protecting State property was partially rebuilt. The dyke furnishes a road for ingress and egress to the locks. The work could not be completed before freezing weather in December, 1919. Large sections of the dyke were carried out by the floods of March, 1920, causing a loss of several thousand dollars.

The work on the dyke has not been resumed this year, awaiting work by the Waukonda Drainage District, now organized, and by other drainage organizations that have suggested cooperative plans for permanently overcoming annual damage from floods in that vicinity. If the State resumes the work, a much larger appropriation is necessary than made by the Fifty-first General Assembly for it.

Other unusual repairs have been necessary to locks, gates, houses and floating equipment which have required a large expenditure.

FOX RIVER FEEDER

An application for Federal permit to construct a dam in the Fox River at Dayton, five miles north of Ottawa, brought to the attention of the division adverse claims to property at that point. The permit for the dam was refused by the Government upon the representations of this division that the State had property rights.

Investigation by the division indicates that these adverse claims are without foundation; that the State owns in fee the bed of the feeder; that it has property interests at the site of the dam, and has a perpetual contract for three-fourths of the water flowing in the Fox River for power development at Dayton. Investigation of the records of the Canal Commissioners does not show any official action indicating abandonment.

This investigation was in progress when report for last year was made. Legal questions involved had been referred to the Attorney General for opinion. The position of department and division officers is sustained. A lease of State rights has been discussed with those desiring to utilize the situation for power development, but no contract completed. Litigation may result from the situation. The State will allow no work unless its rights are recognized and acquired by legal process.

SUITS TO RECOVER STATE LANDS

To establish title of the State to the right-of-way of the Illinois and Michigan Canal and to obtain the evidence necessary to a successful trial of cases now pending in the Cook County Circuit Court against various individuals and corporations that have entered upon and occupied this property, it has been necessary to make an exhaustive examination of the records of the canal covering the period from 1822 to the present time, and records in the counties of Cook, Will, Grundy and LaSalle.

This investigation is requiring the handling and copying of thousands of documents, numerous plats, maps and field notes of early surveys, and other data, examination of documents in the offices of the Auditor and Secretary of State at Springfield, and a very large correspondence. Valuable records have been located, including the original book of proceedings of the Canal Commissioners for the period 1829 to 1833, notes of original surveys, and other data of importance.

This work is by no means complete, and will continue for several months. The division has already obtained much documentary evidence up to this time, and is confident the claims of the State will be upheld when these cases reach trial and introduction of evidence is permitted. Preliminary arguments are to be heard in September.

The property involved in the pending suits is located in sections 30 and 36 in Cook County. The original survey of the right-of-way in these sections has been relocated by engineers of the division, plats made, and the information given the Attorney General. This survey and completion of necessary maps required several months. Many difficulties were found in locating the original marks.

From the information thus obtained it would appear that the right-of-way of the State is more extensive than heretofore believed. The evidence discovered, the division believes, will result in a reversal of opinion by the courts of the State in cases heretofore tried and de-

terminated, in none of which was evidence introduced such as is now found.

The property within Cook County, which corporations and individuals have sought to seize and hold, is valued at several hundred thousand dollars. If these cases are decided in favor of the State, lands representing a value of millions will be recovered.

Knowledge of the pending suits has resulted in a waiver of claim by a number of individuals to property seized and occupied, and the division has been able to execute leases with this class of squatters, confirming title in the State.

In an action against George Donnersberger, who has occupied and claims a large tract of this State property, the State Supreme Court has already given a decision favorable to the State. Donnersberger sought to confirm his title to the property by procuring the issue of a Torrens land registration certificate from the Recorder of Cook County. The Attorney General, acting for the division, contended title could not be acquired against the State in this manner, and the court sustained the contention.

The Fifty-first General Assembly authorized a resurvey of the entire canal for the purpose of relocating the original surveys. It has been impossible for the division to accomplish this work except at a few points where the need was most pressing. The time of its engineers and investigators has been given entirely to work immediately necessary in connection with pending suits affecting property in sections 30 and 36. Enough has been done to establish the fact that property of the State is occupied by squatters at many points.

Receipts and expenditures are as follows:

RECEIPTS

	July 1, 1918, to July 1, 1919.	July 1, 1919, to July 1, 1920.
90-foot strip lots and bridge rentals.....	\$13,752.10	\$ 9,080.46
Water power rentals.....	11,665.20	17,364.68
House boat, boat house rentals and level licenses.....	273.50	307.50
Water pipe rentals and miscellaneous.....	7,295.17	7,400.27
Ice leases	1,042.00	1,057.00
Certified copies	17.50	45.00
Tolls	682.36	1,594.79
Total	\$34,727.83	\$36,849.70

EXPENDITURES.

	July 1, 1918, to July 1, 1919.	July 1, 1919, to July 1, 1920.
Illinois and Michigan Canal.....	\$23,133.03	\$32,119.04
Illinois River and Locks.....	13,578.36	11,496.74

SUMMARY SPECIAL CANAL FUND.

Balance on hand July 1, 1919.....	\$23,402.49
Receipts July 1, 1919, to July 1, 1920.....	\$36,849.70
Expenditures July 1, 1919, to July 1, 1920.....	32,119.04
	<u>4,730.66</u>
Balance on hand July 1, 1920.....	\$28,133.15

The number of boats navigating the canal, clearances issued, and tons transported through the Illinois and Michigan Canal and locks at Henry and Copperas Creek in the Illinois River follows:

COPPERAS CREEK LOCKS.

	July 1, 1918, to July 1, 1919.	July 1, 1919, to July 1, 1920.
Tolls	\$164.73	\$645.32
Boats cleared	48	219
Number of passengers.....	24	1,697
Tons transported	2,815	10,011
Consisting of—		
Corn	16,800 bu.	.....
Oats	75 bu.	.....
Wheat	62,079 bu.	228,900 bu.
Coal	175 tons	811 tons
Merchandise	613,273 lbs.	1,030,510 lbs.
Molasses .....	.....	3,638,016 lbs.

HENRY

	July 1, 1918, to July 1, 1919.	July 1, 1919, to July 1, 1920.
Tolls	\$315.65	\$488.40
Boats cleared	109	205
Number of passengers.....	9	1,390
Tons transported	6,000	3,744
Consisting of—		
Corn	46,523 bu.	60,836 bu.
Oats	82,000 bu.	44,500 bu.
Wheat	29,731 bu.	43,000 bu.
Rye	22,000 bu.	13,500 bu.
Barley	2,000 bu.	.....
Sand	1,650 tons	700 tons
Coal	150 tons	.....
Merchandise	59,460 lbs.	225,100 lbs.

JOLIET

	July 1, 1918, to July 1, 1919.	July 1, 1919, to July 1, 1920.
Boats cleared	55	77
Tolls	\$164.47	\$339.43

OTTAWA

	July 1, 1918, to July 1, 1919.	July 1, 1919, to July 1, 1920.
Boats cleared	20	37
Tolls	\$64.28	\$102.75

ILLINOIS RIVER POLLUTION

In his first engineering report on the Illinois Waterway project in 1917, M. G. Barnes, chief engineer, directed attention to the importance to the State of a determination of the controversy between the Government and the Sanitary District of Chicago over the quantity of water diverted from Lake Michigan for diluting sewage discharged from the Sanitary District channel into the DesPlaines and Illinois Rivers.

The temporary permit of the Government issued in 1901 provided for a diversion of 4,167 c. f. s. This flow has been inadequate for sanitary purposes for several years, and conditions arising from pollution are such as will seriously interfere with navigation if not remedied.

June 20, Judge Landis, in the United States District Court, handed down a decision in litigation started in 1908, upholding the contention of the Federal Government that the Sanitary District cannot lawfully divert from Lake Michigan more than 4,167 c. f. s. of water for sanitary purposes. Entry of final decree is delayed until 60 days after the convening of the U. S. Supreme Court in October to allow opportunity of appeal by the Sanitary District of Chicago. Should the final decree of the courts restrict diversion to 4,167 c. f. s., serious problems are presented.

Dilution method of sewage has been relied upon by Chicago under provisions of State law requiring a diversion of water from Lake Michigan of $3\frac{1}{3}$ c. f. s. per thousand of population. This, authorities agree, is a lower percentage of dilution than required in many cases. Based on present population the provision of State law requires a diversion of approximately 10,000 c. f. s. Even this flow imperils the water supply of Chicago, at times seriously, while throughout the Illinois valley there is general complaint of stream pollution.

Notwithstanding the pending suit, knowledge of Government opposition to a diversion of water from Lake Michigan regardless of requirements of State law, dangers of an adverse decision of the courts, and inadequacy of dilution method of sewage disposal in view of growth of population in Chicago and objectionable stream pollution down State, the Sanitary District administration has been expending large sums for projects other than sewage disposal, instead of pushing construction of treatment plants for separating the solids and chemically treating the effluent to render it innocuous. At the end of twenty years, construction of treatment plants is not now more than in an experimental stage for an exceedingly small percentage of total area. It is expected the district will complete the auxiliary Sag channel by the fall of 1921. It has been announced that no additional sewage will be sent down this channel into the DesPlaines and Illinois Rivers without treatment, yet the contract for the treatment plant has only recently been let. Accepting in good faith the statement that the plant will be completed in two years, this means some time in 1923, at least two years after the channel may be completed and ready for water flow. In view of past experience, it may be assumed there will be delays, that the plant will not be completed within a two year period, and the question arises, will the rivers down State be given an additional raw sewage load to carry in their already overburdened condition?

LITTLE PROGRESS IN SEWAGE TREATMENT

Up to the present time all the work of the Sanitary District of Chicago in providing plants for sewage treatment is covered by the following:

The Calumet or Sag channel plant above referred to for which contract has been let to serve an estimated present population of about 200,000.

The Maywood plant and Morton Grove plant in the upper Des-Plaines River district which will serve present population of about 55,000. Work on the Calumet plant has not yet started. Work on the Maywood plant started two or three years ago, and it is only about one-fourth completed at this time. The Morton Grove plant is a small, isolated plant to care for the few hundred people in that village alone, and has no effect on the main proposition.

All these plants will provide sewage treatment for present population of 255,000 people, or about 8 per cent of the total. It was announced several months ago that an agreement had been reached with stockyards interests by the Sanitary District for the construction of a plant to treat waste and sewage of the packing house district. It is asserted if these wastes were separated and treated, it would mean a relief of polluted conditions equivalent to household sewage of a million people.

It is planned, this division is advised, to put in screens for the stockyards plant when work is started, and to build a proposed activated sludge plant in sections, the first section to represent only about 5 per cent of the whole. It may be anticipated from this that a completed plant is identified with some future period that means no immediate relief to people of Chicago or down State. More than this, the division is advised, the agreement with the stockyards interests, by which costs are to be divided, is not yet signed. Therefore, the entire plan may result in nothing tangible. In any event, in view of present progress, no improvement can be expected for several years so far as stock yard wastes and sewage contribute to the general condition of pollution complained of.

There are admittedly serious problems of engineering and expense involved, but neither is as serious as the question of pure water supply for the city of Chicago and prevention of epidemics of disease throughout the Illinois valley by use of the rivers as open sewers in disregard of modern methods of sewage treatment, work on installation of which should be pushed without further delay.

FORMER THEORIES DISPROVED

Originally the contention of eminent sanitary and construction engineers was that the solids and wastes in the sewage discharged into the streams by Chicago would not travel beyond the limits of the Sanitary District Canal, but would be diluted, settle, or be sufficiently treated by process of aeration to be innocuous. But it has been found the sewage does travel and that the DesPlaines and Illinois Rivers, into the first of which it is discharged at Lockport, are seriously polluted to Peoria.

Later evidences are reported as far as Havana, a distance of 205 miles from Chicago.

If the Sanitary District constructs works in the Niagara River to control and prevent lowering of lake levels, approval of both the United States Government and Canada must be obtained. Adverse interests may interpose objections that may seriously delay, if not wholly defeat, this proposal. Whatever may be accomplished to obtain a Government permit for a greater diversion from Lake Michigan of more than 4,167 c. f. s., fixed in the temporary permit of 1901, it is known that no authorization can be had for a flow that will abate the present objectionable conditions down State, or be sufficient for adequate sewage treatment by means of dilution.

There is but one specific and permanent remedy. That is construction of plants for scientific treatment of sewage by modern methods. Engineers agree, and this division admits, it will be a great problem to design and construct such works and keep pace with future increase in population, saying nothing of the needs of the present population. The little that has been done is inconsequential, although often announced as adequate and comprehensive. The health, the lives of the people of Chicago are endangered by inactivity and procrastination in pushing work for proper sanitary sewage disposal by chemical treatment, now that the limit of the dilution method has been reached.

HEALTH AND LIFE ENDANGERED

The DesPlaines and Illinois Rivers are badly polluted, and for years have been unfit for bathing or domestic use, or for stock, and the fish industry has been completely destroyed as far down as Peoria. The stench at times in the summer season is offensive and is also a damage to navigation.

Delay in inaugurating and providing for financing a settled policy of constructing adequate sewage treatment plants, permitting completion of a definite number of units annually, is endangering the lives and health, as well as the water supply of the people of Chicago and residents of the Illinois valley, and apparently the seriousness of the situation is giving little concern.

Down State communities are already aroused to an opposition to Chicago extremely unfortunate, yet invited by a continuance of a condition that can be obviated and reduced to a degree each year, although 25 years may be required to bring about the entire relief required by reasonable health consideration. Every dollar expended by the Sanitary District in work other than construction of modern sanitary treatment plant units with resulting delay, is imperilling the health and water supply of the people of Chicago.

This division submits there should be such amendment to present legislation, or additional legislation giving some agency, State or otherwise, such control as will insure that this work will be pushed, prevent

expenditure of funds for anything but sanitary purposes, insure just treatment and protection to people throughout the Illinois valley already enduring inestimable damage, and prevent the calamity certain to overtake the people of Chicago unless a scientific method of sewage treatment, in addition to the present outgrown plan of water dilution, is installed and made serviceable without unnecessary delay.

CONDITIONS FOUND IN 1918

This division received several complaints from citizens and municipalities in 1918.

Stephen A. Forbes, chief of the State Natural History Survey Division, having made a survey and investigated the extent of pollution in the river in 1911 and 1912, it was only necessary to make another survey in the summer of 1918 for comparison. This division in July, 1918, requested such a survey be made from Peoria upward, especially to determine whether pollution was increasing or diminishing. A party consisting of R. E. Richardson, in charge, Miss Amelia Jewell, biologists of the Natural History Survey and the Water Survey respectively, G. C. Baker, one of the chemists of the Water Survey, and W. W. Means, an engineer experienced in river work, was organized for the work.

The report received by this division from Mr. Forbes follows:

NATURAL HISTORY DIVISION REPORT

The field operations of this party began July 22, 1918, at Depue, 60 miles below the origin of the Illinois, and were carried down from that point over a stretch of the river 60 miles in length to Pekin, where they were finished August 31. Determinations of dissolved oxygen in the river water were made at Depue, Hennepin, Henry, Lacon, Chillicothe, Alfresco Park, (just above Peoria), Peoria Narrows, (in Peoria Lake), and Pekin. Quantitative collections of the minute plant and animal forms of the water (the so-called plankton), and of the animal forms of the bottom sediments were made at all the above points except Depue. The chemical and biological data thus obtained in the summer of 1918 may be compared with a similar record of oxygen determinations, and of collections of plants and animals from the bottom and the current of the river, obtained July 11 to September 6, 1911-12, at all the above points with the exception of Alfresco Park and Peoria Narrows.

From the following comparative table of oxygen ratios it will be seen that dissolved oxygen was several times more abundant in the water at those points six and seven years ago than it was last summer, the difference diminishing gradually downstream from a ratio of 1 to 16.6 at Depue to a ratio of 1 to 2.8 at Chillicothe, and 2.7 at Pekin.

Otherwise stated, oxygen was nearly seventeen times as abundant in the river water opposite Depue in September, 1911 and 1912, as it was in July, 1918, while at Chillicothe it was 2.8 times as abundant in July and August, 1911 and 1912, as it was in August, 1918, the ratios at

intervening points from above downward being 1 to 9.6, 1 to 3.6, and 1 to 2.7.

RATIOS OF DISSOLVED OXYGEN IN ILLINOIS RIVER WATER, STATED IN PARTS PER MILLION, SUMMERS OF 1911 AND 1912 IN COMPARISON WITH SUMMER OF 1918

	Parts per million 1911-1912.	Parts per million 1918.	Ratios of later period to earlier.
Stations.			
Depue.....	2 65	0 16	1—16.6
Hennepin.....	2 41	0 25	1— 9.6
Henry.....	2 35	0 65	1— 3.6
Lacon.....	2 45	0 92	1— 2.7
Chillicothe.....	3 27	1 17	1— 2.8
Pekin.....	5 61	2 08	1— 2.7

What these oxygen ratios signify as compared with those of a tolerably clean water may be shown by a comparison with the ratios of dissolved oxygen for the Kankakee and with those of Depue Lake. August 21, 1911, the oxygen of the Kankakee River just above its mouth stood at 8.47 parts per million at 10 a. m., and at 10.15 parts per million at 2 p. m., the increased ratio in the afternoon being due to the oxygen given off by water-plants under the influence of sunshine; while in Depue Lake, September 11, 1911, the oxygen ratio stood at 12.92 parts per million when that of the river just above the lake was 2.65 parts per million.

The biological data were of the same general tenor, although a little less definite in the details of the comparison. The most important single biological indication of the reach of pollutional conditions now as compared with those of six years ago was given by a well-known characteristic sewage fungus, *Sphaerotilus natans*. Although extremely abundant in the river at Morris and Marseilles in 1911, this fungus diminished rapidly down-stream at that time and disappeared from both channel waters and the shore at or above Starved Rock, 16 miles below Marseilles, but August 28-30, 1918, small clusters of it were common in the water at Hennepin, 23 miles below Starved Rock, and were present also as far south as Henry and Lacon, 35 and 42 miles below that point. Microscopic examination of specimens taken at Hennepin and Henry showed that the filaments of the fungus were perfectly healthy, and that cell division was in progress, an indication that the water was still sufficiently foul to nourish this sewage fungus, which perishes when the water becomes fairly pure.

Two minute floating plants of the kind known as diatoms (*Tabel-laria flocculosa* and *fenestrata*), very abundant in Lake Michigan but not found in the Illinois River until after the opening of the Sanitary Canal in 1900, were brought into the river in great numbers in the canal water in 1910, but gradually diminished in numbers until they reached Chillicothe, where the water became clean enough to permit their multi-

plication and rapid increase in the river below; but in 1918 they continued to diminish in numbers down-stream past Chillicothe and almost completely disappeared from the river at Pekin, 27 miles beyond that point. Still another lake diatom, (*Melosira granulata* var. *spinosa*), more tolerant of foul water than the two just mentioned, persisted in the river through the worst sewage mixtures in 1910 and 1911 and began to multiply rapidly again at Spring Valley and Hennepin, while in 1918 it first began to increase in number below Chillicothe, 28 miles from Hennepin. From these biological data we may fairly say that the line of division between contaminated and tolerably clean water, although indefinite at all times, has moved from thirty to forty miles down stream during the past six years.

On the other hand, for chemical conditions equivalent to those found at Chillicothe this year, we should have had, seven years ago, to go 67 miles up the river to the Marseilles dam where the ratio of dissolved oxygen was 1.65 parts per million August 14, 1911, as compared with 1.17 parts per million at Chillicothe August 30, 1918. In other words, if we apply the chemical yardstick, we find that pollutional conditions which disappeared at Marseilles in the summer of 1911 persisted in 1918 as far down as Chillicothe, 67 miles below.

In judging the meaning of these comparisons we should take account of possible differences of river levels and the consequent rate of flow in the two periods compared; but I find that gage readings at Peoria show an average of only six inches lower water during the earlier period than during the later—too little to have had any appreciable influence on our problem. On the whole, we are warranted in saying that pollution of the flowing stream by Chicago sewage has greatly increased since 1912, and that it now continues in a way to affect injuriously the plant and animal life of the river as far down as Peoria Lake.

The animals of the river bottom are an especially important element in the life of the stream, because many of our most valuable fishes depend upon them for food; moreover, they indicate better than either chemical analyses or collections of the plankton the general and constant effect of pollution. A chemical analysis shows only what is to be found at the very spot and moment where and when the water sample analyzed was taken, and it may represent a local or temporary condition only; and the plankton, as it is constantly moving down-stream with the current, really shows what conditions are or have been above the point at which collections from it are made; but animals found together on the bottom are stationary, permanent residents of the stream, and sum up in the composition and numbers of the association the total effect of the conditions under which they are living and have lived for a considerable time.

As far down as Henry, 77 miles from the origin of the river at Dresden Heights, the bottom mud had a very foul odor in 1918 and con-

tained no living organism large enough to be seen by the naked eye except a great abundance of "slime-worms" (Tubificidae), characteristic of polluted water. At Lacon, 84 miles from Dresden Heights, the animals found were the same except for two specimens of mollusks, one a small snail, (*Musculium transversum*), and the other a small bivalve, (*Pisidium*). At Chillicothe, 93 miles down-stream, the smell of the mud was not yet normal, and "slime-worms" were common, but the snails just mentioned were now abundant and a few specimens of a larger snail, (*Campeloma subsolidum*), were brought up by the dredge. At Peoria Narrows and Pekin, on the other hand, "slime-worms" were wanting and the water-snails, fresh-water sponges, crustaceans, and insect larvae taken were of kinds commonly found in the natural waters of an unpolluted river.

No signs of fishes were noticed at either Hennepin or Henry, and fishermen reported that none had been seen for a long time at either place.

STEPHEN A. FORBES,

Chief, State Natural History Survey.

In addition to the above report made by Mr. Forbes, the following additional report is received from R. E. Richardson:

I. THE CHANNEL PLANKTON

Methods.—Surface plankton samples dipped and strained through hard-pressed filter paper and No. 25 silk bolting-cloth were taken between August 28 and September 3 at seven stations in the river channel from Hennepin to Pekin, and microscopic examination of the living material was made on the ground the same day in all cases except the collections of the last date. While exact quantitative methods were not used either in collection or examination, the collections were of approximately uniform size, about 500 c. c. of water being condensed to about 1 c. c. through No. 575 hard-pressed paper, and about 20 liters condensed to about 2 c. c. through a No. 25 silk bolting-cloth filter. The amounts examined ran from 5 to 10 drops for the concentrated mixture, one drop at a time on plain slides. The method of rating and recording abundance was as follows: (1) Species seen not oftener than once in a slide were recorded as 1, meaning *present* in small numbers; (2) species seen more than once in each slide up to 4 or 5 times, were recorded +, meaning *common*; (3) species seen many times, usually 20 to 50 or more times in each slide, were recorded as ++, meaning *abundant*. As the filter paper samples furnished such sparse material for examination in a slide and added nothing of importance to the list of species made up from the silk samples, except in the case of two small green chlamydomonad protozoa, the records of abundance in the two accompanying tables may be said, (except in the case of these two species), to be made up from the silk collections.

Stations.—The list of stations and their distance below Chicago, (Robey Street) and above Grafton follows:

Station.	Miles above Grafton (0).	Miles below Robey Street (320.8).
Hennepin	208.0	112.8
Henry	196.0	124.8
Lacon	189.2	131.6
Chillicothe	180.5	140.3
Alfresco Park	167.4	153.4
Peoria Narrows	166.2	154.6
Pekin	153.0	167.8

The significance of the plankton data obtained can be best understood in comparison with our findings regarding the plankton of the upper river in the summers of 1910 and 1911.*

Sphaerotilus.—The single most important indication of progress of pollutional conditions down-stream since 1910 and 1911 is furnished by *Sphaerotilus natans*. This saprophyte disappeared from both channel and shore at or above Starved Rock in 1911, while on August 18-30, 1918, small clusters of it attached to very small particles of suspended matter were common at Hennepin, (which is 22.8 miles below Starved Rock), and were present as far south as Henry and Lacon, (34.8 and 41.6 miles below Starved Rock). Hennepin and Henry filaments were healthy and showed cell division in progress.

Blue-Green Algae.—The occurrence in abundance of isolated floating filaments of *Oscillatoria limosa* and other species of blue-green algae, probably pollutional, presents little if anything new as compared with conditions in 1911, and is probably of no great importance as an index of channel conditions on the spot, as these plants do not belong to the plankton, but are for the most part torn loose from shores, drift, and other points of lodgment in shallow water and may float long distances down stream.

Lake Michigan Diatoms.—Of two of the most important Lake Michigan diatoms (*Tabellaria flocculose* and *T. fenestrata*) I note that while in 1910 they recovered rapidly in numbers below Chillicothe, they now clearly show a moribund, faded-out condition and appearance at all stations, decreasing steadily down stream below Hennepin to the point of almost complete disappearance at Pekin.

Melosira.—*Melosira granulata* var. *spinosa*, another diatom entrant from Lake Michigan, which persisted alive through the worst sewage in 1910 and 1911 and showed uninterrupted increase then from Spring Valley or Hennepin southward, fails to increase now until it passes Chillicothe.

First Normal Plankton.—While Chillicothe marks now about as in 1910 and 1911, the point of first occurrence in goodly numbers of representatives of several other groups of clean-water organisms (other than diatoms, that is Chlorophyceas, green flagellate Protozoa, Rotifera), I note that a really normal plankton, as measured by variety of clean-water species and abundance of leading forms, is not now reached above Peoria Narrows; and that the plankton now present in the channel at the

* A very general account of the upper Illinois River plankton of July and August, 1911, is to be found in the bulletin of the Illinois State Laboratory of Natural History, Vol. IX, Art. X (June, 1913), pp. 496-500.

narrows is visibly influenced by contribution from Peoria Lake. (See table foot-note, on Peoria Narrows and vicinity).

Effect of Peoria Sewage.—Though the Peoria sewage now apparently results in marked decrease in dissolved oxygen between Peoria Narrows and Peoria, there is no perceptible unfavorable effect of it either on the composition or the abundance of the plankton at Pekin.

II. THE BOTTOM FAUNA

As in the case of the plankton we did not find a bottom fauna normal either in variety or abundance until we reached Peoria Narrows.

Hennepin.—At Hennepin the mud had a very foul odor and contained no macroscopic organisms except tubificid worms, which were very abundant.

Henry.—At Henry, above the dam, the odor of the mud was not noticeably better than at Hennepin, and nothing was found in it alive but the same worms. Bubbles were constantly rising from the bottom, and small sludge chunks were floating. The west bank was examined below the dam and no signs of living snails were seen.

Lacon.—At Lacon the mud contained tubificid worms, but we also found one living specimen of the sphaeriid snail, *Musculium transversum*, and one living *Pisidium*.

Chillicothe.—At Chillicothe the odor of the mud was not yet normal, and tubificid worms were still common. However, the snail *M. transversum* was abundant alive, and a few specimens were found of living *Campeloma subsolidum*, a species which we found to be one of the most tolerant snails in the upper river in 1912.

Peoria Narrows.—At Peoria Narrows the mud worked through the dredge box and could not be examined for odor. The fauna taken was normal to clean water, contained no Tubificidae, and was about the same in composition as collections taken there in 1912 and 1915. The principal organisms were:

Snails.	Pleurocera species.	Common.
	Goniobasis species.	Present.
Protozoa.	Freoricella species.	Abundant.
Sponges.	Spongilla.	Common.
Asellus species.		Common.
<i>Hyalella knickerbockeri</i> .		Common.
A red chironomid larva.		Present.

Pekin.—At Pekin also the bottom fauna was normal to clean water, and showed somewhat greater variety than at Peoria Narrows. The list is as follows:

Snails.	<i>Campeloma subsolidum</i> .
	<i>Vivipara contectoides</i> .
	Pleurocera species.
	<i>Musculium transversum</i> .
Mussels.	<i>Quadrula plicata</i> .
Sponges.	Trochospongilla.
Crustacea.	Asellus species.
	<i>Hyalella knickerbockeri</i> .
Insect larvae.	Hydropsyche species.
	Chironomid.
Leeches.	Undetermined.

R. E. RICHARDSON,
Biologist, Natural History Survey.

SURFACE PLANKTON, ILLINOIS RIVER, CHANNEL, 1918
FILTER PAPER AND 25 SILK, QUALITATIVE

			Hennepin August 28.	Henry August 29.	Lacon August 30.	Chillicothe August 30.	Peoria Narrows and vicinity August 31- September 3.	Pekin August 31.
I. Foul-water Species (indigenous)								
Schizophyceae.....	1.	Sphaerotilus natans.....	†	3	1			
Cyanophyceae.....	2.	Oscillatoria limosa, etc.....	††	††	††	††	†	1
Flagellata.....	3.	Euglena viridis.....		1	1	†		1
Ciliata.....	4.	Carchesium lachmanni.....	1			1		
	5.	Epistylis plicatilis.....	1		1			
Rotifera.....	6.	Rotifer actinurus.....	1					
II. Tolerant Species (indigenous)								
Schizophyceae.....	7.	Cladotrix dichotoma.....						1
Cyanophyceae.....	8.	Anabaena spiroides.....		1	†	†		
Chlorophyceae.....	9.	Scenedesmus quadricauda.....	1			†	1	1
	10.	Acutus.....		1		1		
Ciliata.....	11.	Coleps hirtus.....			1			
Rotifera.....	12.	Rotifer tardus.....	†	†	†	†		1
III. Tolerant Species (Survivals from L. Mich.)								
Flagellata.....	13.	Chlamydomonas globosa ?.....	†	†	1	††		
	14.	C. communis ?.....			1	1		
IV. Clean-water Species (Survivals from L. Mich.)								
Bacillariaceae.....	15.	Tabellaria flocculosa.....	††	†	†	1	1	1
	16.	T. fenestrata.....	††	†	†	1	1	
	17.	Fragellaria virescens.....	1	1	†	1		
	18.	Melosira granulata spinosa.....	1	1	1	1	†	†
	19.	Synedra acus.....	1	1	1	†	1	1
	20.	Asterionella gracillima.....		1	1		1	
	21.	Diatoma tenue.....			1			
Chlorophyceae.....	22.	Pediastrum boryanum*.....			†	†	†	†
	23.	Oocystis naegeli.....		1	1	1	1	1
	24.	Dictyosphaerium sp.....				1		
V. Clean-water Species (Indigenous)								
Cyanophyceae.....	25.	Polycystis aeruginosa*.....		1				
	26.	Microcystis species*.....		1	†	†		
Chlorophyceae.....	27.	Raphidium polymorphum.....		1				
	28.	Chlorogonium species.....					1	
	29.	Pediastrum pertusum*.....	1	1	1	†	†	†
	30.	Closterium lunula.....						1
Flagellata.....	31.	Trachelomonas hispida.....	1			1	1	1
	32.	Euglena oxyuris.....			1			
	33.	Phacus longicaudus.....					†	
	34.	P. triqueter.....		1				1
	35.	Pandorina morum.....			1	1		1
	36.	Eudorina elegans.....				†		1
	37.	Platydorina caudata.....		1	1	†		1
Rhizopoda.....	38.	Diffugia globulosa.....						1
Ciliata.....	39.	Codonella cratera.....			1		††	††
Rotifera.....	40.	Asplanchna brightwellii.....				1		1
	41.	Polyarthra platyptera.....		1	1	†	†	†
	42.	Triarthra longiseta.....			1	1	†	1
	43.	Ratulus tigris.....				1		
	44.	Synchaeta pectinata.....					1	1
	45.	Monostyla lunaris.....				1		
	46.	Anuraea cochlearis.....					1	†
	47.	A. aculeata.....		1			1	
	48.	Brachionus angularis.....		1	1	1	†	†
	49.	B. mollis.....				1	1	1
	50.	B. bakeri brevispinosus.....		1		1	1	1
	51.	B. bakeri melhelmi.....		1		1	1	1
	52.	B. pala amphiceros.....				†		
Entomostraca.....	53.	Cyclops sp. (adult).....		1				1
	54.	Nauplii.....		1		†	†	†
	55.	Daphnia species.....				1		1
	56.	Simocephalus vetulus.....					1	1
	57.	Bosmina longirostris.....			1		1	1
	58.	Chydorus sphaericus.....			1			

† Silk plankton from the lake opposite Al Fresco Park (about a mile above Peoria Narrows) showed a small shelled ciliate (*Codonella cratera*) and also Cyclops and copepod nauplii much more abundant than in the channel samples. *Melosira* was not noticeably more common at the lake than at the two channel stations.

* Classification of species under IV and V a little uncertain.

CHANNEL CANNOT BE ABANDONED

The Sanitary District channel cannot be abandoned. Its construction represents an expenditure of \$30,000,000. It is a valuable asset to navigation and means an integral part in the development of the State.

Objectionable conditions of pollution must be overcome. To give a flow of water sufficient to overcome the existing pollution by dilution would exceed the capacity of the Sanitary District channel. To enlarge the channel to carry the flow that the population demands, and as fixed by the laws of the State, would entail flood and damage down State. This prohibits consideration of such a plan.

In March last, officers of this division were optimistic in the belief that the long standing controversy between the Government and Sanitary District in regard to the amount of water to be diverted from Lake Michigan could be satisfactorily adjudicated.

A conference was arranged with the Chief of Engineers of the War Department at Washington, attended by Charles H. Sergel, president of the Sanitary District, and the following trustees, namely, Lawley, Healey, Littler, Mueller, and Nance, and by William L. Sackett, superintendent of this division.

Satisfactory progress was made, admitted by Government engineers to be the first time in years it had been possible. General Lansing H. Beach, who had but recently assumed the duties of Chief of Engineers, urged representatives of the district and State to prepare at once data indicating actual conditions, the least diversion and flow from Lake Michigan that would handle sewage now and what would be necessary if sewage was first treated. The necessity for hurrying construction of sewage treatment plants was emphasized. The Government asked for specific information as to how soon the district could start on a definite construction plan and wanted assurance as to the date of completion of sewage plants to reduce the discharge of solids at least 50 per cent.

DANGERS ARE KNOWN

The dangers to Chicago and down State were realized and discussed. President Sergel and trustees of the Sanitary District present, strongly advocated adjudication of the differences with the Government and a policy that would protect down-State communities. It was suggested there should be curtailment of expenditures for everything except sewage treatment plants and such auxiliary work as would indicate good faith with the Government, the people of Chicago, and down State.

Investigation was at once started by the State with a view to a comprehensive analysis of the entire situation for report to the Chief of Engineers. The Sanitary District was expected to do likewise, so that a joint report might be submitted for Government consideration prior to May 1. Within three weeks, however, from the date of the conference with Government engineers at Washington, the then existing organiza-

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tion of the Sanitary District was changed. President Sergel, who had been vetoing various proposals for expenditure of money for work other than that directly connected with sanitation or construction of treatment plants, was deposed, Trustee Healey being elected president in his place and funds of the district were later expended for various purposes in no way directly connected with construction of modern sewage treatment plants, and this division is not informed of any report submitted for the information of Government engineers as agreed upon and requested in the conference in March.

HOW CONDITIONS HAVE CHANGED

This division is indebted to Dr. Edward Bartow, chief of the Water Survey Division of the State, and Professor Stephen A. Forbes, chief of the Natural History Survey Division and R. E. Richardson, biologist, for a review of past and existing conditions. These gentlemen have been actively identified since 1912 in surveys and observations of the effect on plant and animal life of the Illinois River, including its fisheries, resulting from the various degrees of pollution by sewage discharged therein from the Sanitary District of Chicago and from the principal river towns. They have given studious consideration to the problem of dilution by water diverted from Lake Michigan and the flow required to remove or mitigate the most objectionable features of the present situation and of that certain to appear with a normal increase of population in Chicago and the river basin.

It was deemed inadvisable to duplicate the work or expense, and Professor Forbes was requested to give this division a supplemental report, indicating the least possible flow of water diverted from Lake Michigan deemed safe for purposes of sanitation by Chicago, desirable for the needs of navigation by the State, and that will save the Government millions in channeling, and not impose damage upon property owners down State or imperilling health of valley people.

The report submitted by Professor Forbes in April, 1920, follows:

REPORT OF PROFESSOR FORBES

We are all convinced that the present minimum rate of dilution of raw sewage fixed by the law of the State, which is a flow of 3.3 cubic feet of clean water per second for each thousand of the population whose sewage enters the river, is now and probably always has been inadequate to the maintenance throughout every year of proper conditions in the whole course of the Illinois, and that the evil consequences of this inadequacy are increasing rapidly with the growth of the contributing population and the multiplication in the Illinois basin of manufacturing establishments of various kinds which contribute to the pollution of the stream. We are also of the opinion that any amount of dilution which it is at all likely that we should be permitted to get by way of the Great Lakes, or which, if permitted, would be acceptable to those in-

terested in the use of the river for transportation purposes, would be inadequate unless the sewage admitted to the system is first so treated in whole or in great part as to remove the bulk of its putrescible and other injurious materials before its effluent is permitted to mingle with the river water. Until this is done, the choice lies between a *minimum* dilution, decidedly less than that used at present, which would retain the polluted waters in the upper part of the river until their organic contents had undergone putrefaction, so that the flow of the stream below Ottawa or LaSalle should be relatively innocuous; or the *maximum* dilution permissible, which would relieve the upper river somewhat, at least for a time, but would carry the putrefaction processes much farther downstream in a swifter current of deeper and cooler water, resulting sometimes in nuisance and injury, at least as far as Havana, and eventually, in all probability, to Beardstown or possibly to the river mouth.

The following is a summary of the principal facts on which these conclusions chiefly rest:

Before the opening of the sanitary canal of the Chicago district in January, 1900, the sewage of that great city was mainly decomposed in the Chicago River and in the Illinois and Michigan Canal, so that the upper Illinois River towns were little affected; but after the opening of the canal and the consequent reversal of current and increased flow of the Chicago River, the city was freed from nuisance at the expense of the upper Illinois. Nevertheless, even as late as the summer of 1911, when my staff first began to study the subject in that part of the stream, although at low water the river from Morris to the Marseilles dam was, in hot weather, very like a cess pool, being nearly devoid of oxygen, deserted by fishes, and destitute of the normal life of an Illinois stream, it began to recover at Ottawa, thirty-three miles from its origin, and was nearly normal as to the make-up of its plant and animal population at Hennepin, thirty-two miles farther down.

In 1918, on the other hand, polluted conditions very like those above Ottawa in 1911, had appeared 51 miles below Ottawa at Lacon where the bottom sediments of the river had a stinking odor, sewage worms were abundant in the sludge, which contained no clean water organisms, and the oxygen of the water was only about a tenth that of a normal stream and less than half that necessary to the life of our Illinois River fishes. In midsummer of this year of 1918 the tolerable conditions found at Hennepin seven years before were not met with above the narrows of Peoria Lake, 42 miles farther down. There has thus been a progression downward of pollutional conditions at an average rate of six or seven miles a year.

Up to 1918 the broad and shallow expanse of the river known as Peoria Lake had acted as a partial renovator of the polluted waters from above, but in 1919 this barrier was evidently broken through, as is shown by bottom conditions found in September of that year at the

middle of the river's length as compared with those of the same spot in July and August, four years previously. In these latter months of 1915, eight hauls of our apparatus for making quantitative collections from the river bottom gave us, in a short stretch of the river 145 miles below its origin, an average of 1,461 animals to the square yard, mostly water snails of half a dozen species; while three similar hauls made last September at the same place gave us an average of only 96 animals to the square yard, all a single kind of snail especially tolerant of pollutional conditions, no other animals of any kind being found. The bottom conditions here in 1919 closely resembled, in fact, those of 1918 at Chillicothe, 52 miles above the place at which these latest collections were made. Furthermore, with the disappearance of the animal life of the bottom, upon which the river fishes largely depend for food, the number of the fishes themselves has fallen off so far that fishing operations were generally abandoned last summer in the middle of the season at Havana, between which place and Liverpool the observations above described were made.

Ratio of Dilution Unchanged.

It is important to note that during this period of increasing and progressive pollution, the ratio of dilution to the population of the Sanitary District has remained, according to the best available information, substantially constant at the legal figure of 3.3 second feet per thousand, averaging, for example, 3.51 second feet in July and August, 1911, and 3.54 in 1919-1920. It is estimated that the population of Chicago has increased during this decade about half a million, and the numbers of cattle and hogs slaughtered in the stockyards have risen about 25 per cent and 32 per cent respectively. As the volume of the city wastes has been thus increased, the volume of water admitted from Lake Michigan has been enlarged proportionally, with the result that the current of the river has been speeded up and a larger load of organic matter has been carried farther down-stream than before. A contributing cause of these changes has been the construction of new levees along the river for the reclamation of bottom lands. By a confinement of the river to narrower limits at medium stages and above, the strength of the current is increased, the suspended organic matter is carried farther down-stream before it settles, and the bottom sludges are moved along to greater distances in times of flood.

With respect to the contrasted effects of what we may call the cess-pool method of management and the maximum dilution method, we have fortunately a perfect illustration in the conditions in the Peoria section of the river in 1899 as compared with those in 1911—the first period coming just before the river flow had been reinforced by the sanitary canal, and the last eleven years after the canal was opened. In August, 1899, the waters of the Illinois from LaSalle to Peoria were heavily saturated with oxygen containing, in fact, more than three times the

percentage that the same waters contained in August, 1911; but on receipt of the Peoria sewage they suddenly lost this advantage, the river at Wesley two miles below, containing less than a fourth of the oxygen which it contained at Averyville just above the city, and only about two-thirds as much as in August, 1911. It reacted quickly, however, and was again supersaturated only 16 miles below Peoria.

The contrast in 1911 was striking and instructive. Beginning at LaSalle with 40 per cent of the oxygen ratios present in 1899, the cooler, larger current passed Peoria with no indication whatever that an additional sewage load had been received at that point; and at Copperas Creek dam, 21 miles farther down, it contained less than half the oxygen of 1899. The relatively shallow, sluggish, clean-water current of the midsummer before the opening of the canal digested its sewage intakes and regained its normal state of oxygenation within short distances; but the deeper, cooler, stronger current of eleven years later disposed of its overload slowly, imperfectly, and over long distances, reaching Peoria in a stage of pollution to which the sewage of that town added too small a percentage to be noticeable.

A Vexing Problem.

Turning to the problem of the amount of dilution likely to be most useful under the circumstances now existing, I find the subject vexed with complexities and bristling with difficulties. A choice must evidently be made between the two alternatives already mentioned—on the one hand an upper river badly polluted, at least in hot weather, low-water stages, but with the general course of the stream always in at least a fair condition; or, on the other hand, a lesser degree of pollution, extended indefinitely far down stream.

A choice of the first alternative would limit the more injurious pollution to the most scenic and frequently visited part of the river, but to that of the least economic importance, the fisheries above LaSalle having never been valuable, and it would involve a sacrifice of the interests of a part of the inhabitants of the valley for the benefit of the remainder. Furthermore, if we were to return, let us say, to the 7,000 second feet of water taken from Lake Michigan in the midsummer of 1911 in place of the 8,500 of last year, we should be applying the former dilution to a sewage load 20 per cent heavier than that of the earlier period, and the area of pollution would be correspondingly prolonged down-stream. It further seems unlikely that the polluted waters could be permanently penned up so that they would not be swept downward to do extensive damage in times of relatively high water in the summer season. Only experience (or experiment) can settle some of these points.

A choice of the second alternative would mean a material increase of dilution at certain times beyond the present rate of 3.3 second feet to the thousand of population, and here we meet at once with three difficul-

ties; there is a limit beyond which the Federal and Canadian governments will not allow us to go because of the effect on the level of the Great Lakes; there is a limit also beyond which the use of the river for transportation would be hampered or endangered; and any substantial increase of river levels might involve the Sanitary District in heavy charges for the overflow of agricultural lands and render the protection of reclaimed areas by levees more expensive. These difficulties might be met in part, however, by varying the intake from the lake from time to time, according to the river levels, taking a maximum amount when the river is lowest and relatively little when it is in flood—substituting, in fact, for the present requirement of a minimum *rate of dilution*, whatever the stage of the river may be, the maintenance of a *minimum flow of the stream* at some one point (as at Hennepin or Peoria) this minimum being fixed at a rate sufficient to maintain the necessary clearance flow in Chicago River and the sanitary canal and to prevent nuisance conditions at the important town of Joliet. If to this is added a maximum limit of appropriation from Lake Michigan, to be determined by lake levels and the requirements of river transportation, we shall have gone, in my opinion, as far towards an amelioration of the evils of the situation as is possible under present conditions.

It will be seen that the choice between the alternatives which I have presented is really a choice of evils, such as ought not to be forced upon guardians of the public welfare; and that the only escape from it is in the direction of a preliminary treatment of the raw sewage sufficient to make its effluent practically unobjectionable. The first and most obvious step in this course would naturally be a treatment of the packing-house sewage and of the other trade wastes which are now sent into the canal and the Illinois River in violation of the present law of the State; and the second step would be a treatment of the general sewage of Chicago and the river towns which now drain into the river, directly or indirectly.

Waterway Dams May Help.

There is, however, a possible minor source of prospective relief which should be mentioned, although I do not know of any way in which its value can be estimated; and this is the effect of proposed additional dams in the upper river between Dresden Heights and Starved Rock. We found in 1911 that the plunge in midsummer of the heavily polluted water over the Marseilles dam, whose fall was then about 10 feet, had the effect so to aerate the water as to multiply the dissolved oxygen ratio by three. If this dam is raised 3 feet, as I believe is the present intention, and three other dams are built in this part of the stream, this effect will, of course, be much increased, and perhaps multiplied several times.

Assuming, now, that the best that can be aimed at until trade wastes are largely eliminated and general sewage treatment is begun, is a condition of the river, or at least the major and better part of it, such that

it shall not be at any time offensive to sight or smell; and that its fishes, mussels, and other valuable animals, and the plants and animals of their food shall be able to live, thrive, and multiply in normal numbers, the final question arises: what ratios of feasible dilution will best serve these ends?

Dilution Ratio Must Increase.

At this point, after an organization and careful study of all the data available to us, both from published statements and from our own observations, I am compelled to conclude that the biologist and the chemist must give way to the engineer. It seems proper to say, however, that in our judgment the maximum dilution permitted should be made as high and the minimum dilution required should be placed as low as the limiting conditions which I have specified will permit; that within this range practice should be varied as experience may indicate; and that preliminary treatment, first of trade wastes and then of general city sewage, should be pushed as rapidly and carried as far as possible.

When we remember that the city of London was treating its sewage and had been doing so, I believe, for some time when our sanitary canal was opened in 1890; that an English Royal Commission on Sewage Disposal, after years of investigation, reached the conclusion that un-screened sewage should not be permitted to flow into any stream; and that it fixed the rate of dilution of screened sewage at more than seven times the legal dilution rate for crude sewage in Illinois, we see how far short we fall of what may be called standard methods of management.

I have had prepared a considerable number of tables and diagrams supporting and illustrating the statements of this report which follow:

POPULATION AND FLOW (CHICAGO AND LOCKPORT)

	1896-1899	1911	1919-1920	1930	1940
Population (Chicago)-----	1,542,000 (Mean, 3 years, Palmer)	2,185,283 (Census, 1910)	2,881,000 (Census, 1920)	3,500,000 (Estimate Wisner)	4,100,000 (Estimate Wisner)
On I. and M. Canal (85%)-----	1,310,700	-----	-----	-----	-----
Deduct Cal.-Sag.-----	-----	—200,000* (Soper, etc., 1914)	250,000 (Est.)	Figured as open	Figured as open
On Sanitary Canal-----	-----	2,000,000 (About)	2,631,000 (About)	-----	-----
Stock Yards equivalent-----	750,000 (About)	769,230**	1,000,000 (Pearse)	1,000,000+	1,000,000+
Floating population-----	No estimate	250,000 (Estimated)	+300,000***	+300,000	+300,000
Approx. total connected-----	2,060,700	3,019,230	3,931,000+	4,800,000	5,400,000+
Minimum discharge at 3.3 to carry total-----	6,798 Sec. Ft.	9,962	12,972	15,840	17,820
Actual discharge at Lockport.	600-1,000 Sec. Ft.	6,454 yr. av.; 7,036 Av. July-Aug.	8,500	?	?

* "Less than 200,000." Soper, Martin, Watson, 1914.

** Figured on basis of packing statistics and Pearse estimate, 1919.

*** Estimate of City Wastes Commission, 1914.

SANITARY DISTRICT CANAL SEWAGE TREATMENT—APPROXIMATE TIME REQUIRED FOR 25 PER CENT AND 50 PER CENT REDUCTION OF LOAD† (CONSTRUCTION FOR 300,000 TO 600,000 PER YEAR)

	I	II	III	IV
Construction yearly for	600,000	500,000	400,000	300,000
Less population increase	100,000	100,000	100,000	100,000
Net reduction load yearly	500,000	400,000	300,000	200,000
Total number * on Sanitary Canal, years ending December 31.				
1919	3,931,000	3,931,000	3,931,000	3,931,000
1920	3,431,000	3,531,000	3,631,000	3,731,000
1921	2,931,000	3,131,000	3,331,000	3,531,000
1922	2,431,000	2,731,000	3,031,000	3,331,000
1923	1,931,000	2,331,000	2,731,000	3,131,000
1924		1,931,000	2,431,000	2,931,000
1925			2,131,000	2,731,000
1926			1,831,000	2,531,000
1927				2,331,000
1928				2,131,000
1929				1,931,000

* Stock yards equivalent, 1919 = 1,000,000 persons.

† 25-30 per cent reduction takes us back to approximate condition of 1911 (population 2,700,000—3,000,000).

DISSOLVED OXYGEN, ILLINOIS RIVER CHANNEL—SURFACE SAMPLE (EXCEPT *)

	Miles below mouth Chicago River.	Sanitary Dist. Aug. 1899		Sanitary Dist. Aug.-Sept. 1911.		Water Survey July, 1912.		Water Survey Aug.-Sept. 1918.		Miscellaneous Aug.-Sept. 1919.	
		P. P. M.	% Sat.	P. P. M.	% Sat.	P. P. M.	% Sat.	P. P. M.	% Sat.	P. P. M.	% Sat.
Henry, above dam.	131.0	16.6	(210)	3.4	39	2.5	28	0.6	8		
Lacon	137.8					2.2 (2)	27	0.9	12		
Chillicothe	146.5			3.0	36 ca	3.0	(36)	1.2	(15)	0.4	(5 ca)
Spring Bay	153.2					3.2	38			(nhs Aug. 1919)	
Alfresco Park	159.6							3.8	49		
Narrows	160.8							5.4	70		
Averyville	162.3	16.1	182	5.9	68	5.3	64				
Wesley	167.8	3.4	41	6.2	71	6.8 (2)	85				
Pekin	174.0	4.2	55	6.0	70 ca	5.4	(67)	2.1	(27)		
Kingston	181.5	9.4	124			4.1 (3)					
Copperas Dam, above	190.2	9.6	(124)	4.8	56	4.0	47				
Copperas Dam, below	190.2			4.8	56	3.7	(45)			1.3 bott. sam. nhs (nhs Sept. 1919)	(20) (25)
Liverpoll	199.0					4.1 (2)					
Hovana	207.0			3.0	36 ca	3.6	45				

PACKING STATISTICS (YEARS ENDING MARCH)

	Cattle.	Hogs.
Av. 3 years, 1890-93.....	2,447,693	5,217,850
Av. 3 years, 1896-99.....	1,697,369	6,910,511
Av. 3 years, 1909-12.....	1,722,432	5,416,242
Av. 3 years, 1915-18.....	2,149,117	7,099,749

STEPHEN A. FORBES,
Chief Division of Natural History Survey.

COMMENT BY DIVISION ON FORBES REPORT

In the Forbes report herewith reference is made to an average diversion from Lake Michigan and flow of 8,500 c. f. s. last year. This is inadequate for dilution of the present sewage load discharged, or as required by State law per thousand of population.

The records of this department show a somewhat higher average diversion and flow, approximately 10,000 c. f. s. the flow fluctuating from about 6,000 c. f. s. to above 14,000 c. f. s.

This division believes that with all the sewage treatment plants that can be provided for Chicago a 10,000 c. f. s. flow will be required for dilution—at least for many years—and that it can never be materially reduced. A flow of 10,000 c. f. s. will not interfere with river navigation; a greater flow will. A 10,000 c. f. s. flow will not raise water levels in the Illinois River or overflow or add to property damage, which resulted when the first diversion of water by the Sanitary District was sent down, and in no way change conditions in this particular as they have existed the past fifteen years.

The following tabulation by engineers of this division is compiled on the basis of a population in the Sanitary District of Chicago in 1920 of 3,000,000, and that the stockyard waste equals an additional population of one million. The figures are further based on an estimated growth of population of 100,000 per year, and that sewage treatment plants to care for from 200,000 to 600,000 population will be constructed and put into operation each year.

The tabulation indicates that by construction of sewage treatment plants each year that will take care of 300,000 population, it will take until the end of 1928 to bring the sewage load within a limit that might be unobjectionably diluted by 10,000 c. f. s., and at least until 1933 to reduce the present amount of untreated sewage by 50 per cent. Should construction be carried on at the more probable rate of 200,000 population per year, it will take until the end of 1934 to reach the limit of dilution and until the end of 1944 to reduce the untreated sewage by 50 per cent.

PUBLIC INTERESTS PROTECTED IN WOLF AND HYDE LAKES

July 1, 1917, when the Superintendent of the Division of Waterways assumed the duties of that office, a case was pending involving the

question of encroachments upon Wolf and Hyde Lakes and title to the beds thereof.

The proceeding originated by an information filed April 3, 1916, in behalf of the State by the Attorney General against Charles B. Shedd, John H. Hardin, Adolphus C. Bartlett and others, alleging that said lakes were and always had been navigable in fact and that by reason

**SANITARY DISTRICT CANAL SEWAGE TREATMENT—TIME REQUIRED FOR
25 PER CENT AND 50 PER CENT LOAD REDUCTION ASSUMING CON-
STRUCTIONS FOR 200,000 TO 600,000 POPULATION PER YEAR**

YEAR	POPULATION (EST.)	600,000 CONSTRUCTION PER YEAR	500,000 CONSTRUCTION PER YEAR	400,000 CONSTRUCTION PER YEAR	300,000 CONSTRUCTION PER YEAR	200,000 CONSTRUCTION PER YEAR
1920	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000
1921	4,100,000	4,100,000	4,100,000	4,100,000	4,100,000	4,100,000
1922	4,200,000	4,200,000	4,200,000	4,200,000	4,200,000	4,200,000
1923	4,300,000	3,700,000	3,800,000	3,900,000	4,000,000	4,100,000
1924	4,400,000	3,200,000	3,400,000	3,600,000	3,800,000	4,000,000
1925	4,500,000	2,700,000	3,000,000	3,300,000	3,600,000	3,900,000
1926	4,600,000	2,200,000	2,600,000	3,000,000	3,400,000	3,800,000
1927	4,700,000	1,700,000	2,200,000	2,700,000	3,200,000	3,700,000
1928	4,800,000		1,800,000	2,400,000	3,000,000	3,600,000
1929	4,900,000			2,100,000	2,800,000	3,500,000
1930	5,000,000			1,800,000	2,600,000	3,400,000
1931	5,100,000				2,400,000	3,300,000
1932	5,200,000				2,200,000	3,200,000
1933	5,300,000				2,000,000	3,100,000
1934	5,400,000				35%	3,000,000
1935	5,500,000					2,900,000
1936	5,600,000					2,800,000
1937	5,700,000					2,700,000
1938	5,800,000					2,600,000
1939	5,900,000					2,500,000
1940	6,000,000					2,400,000
1941	6,100,000					2,300,000
1942	6,200,000					2,200,000
1943	6,300,000					2,100,000
1944	6,400,000				50%	2,000,000

thereof title to the beds thereof was in the State of Illinois in trust for all the people of the State.

The information further alleged in behalf of the State that the waters of said lakes "have receded to some extent from the original meander line or actual shore line, because artificial means have been employed by various parties, and particularly various of the defendants

NOTICE

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There had been numerous complaints of arrests by Indiana petty officials of hunters and fishermen claimed to be within the boundaries of Indiana, while in fact within Illinois. Officials interested were charged with operating with a common understanding resulting in fines of from \$15 to \$25 in each case, and "splitting" the amount. Since the survey fixing the line this practice has been stopped and Illinois citizens are no longer troubled or molested.

DIVISION OF PARKS

FRANK D. LOWMAN, *Superintendent*

The acquisition by the State of Douglas Monument Park in Chicago and the site of Old Salem near Petersburg, referred to in the last report of this division, together with the purchase of the old State House at Vandalia, has added noticeably to the activities of the division within the last year, and will of necessity increase the appropriations to the division for the maintenance and improvement of State parks.

Negotiations for the purchase of the former Capitol at Vandalia have progressed to such a point that the consummation of the transaction only awaits the execution of the formal document to transfer the title. This historic old building has been utilized by Fayette County as a court house for many years and additions and improvements have been made with a view to utility rather than architectural harmony. It is the intention of the division ultimately to restore the former appearance and interior arrangement of the building so far as is possible. It will be necessary to rewire the structure, install a modern heating system and provide for a rest room for visitors. It is also the plan of the division to acquire and keep in the building relics, souvenirs and memorabilia associated with the community and the times when this place was the seat of the State Government. To this end arrangements already have been made with public spirited citizens to collect this material and, when a suitable place is provided for it, to donate it to the State. Vandalia is located on the National Old Trail, an important artery of travel from East St. Louis to Marshall across the State. This road has been designated as a Federal aid road and will be built of cement. It will, in all probability, be completed in the season of 1921, and will afford easy access to this historic spot.

As Fayette County is still using this building, pending the construction of a court house, and the General Assembly has made no provision for improvement or maintenance, the department has leased the property to the county for a period of two years at an annual rental of \$3,000. This will afford an opportunity to obtain further funds at the next session of the General Assembly for maintenance and alterations.

OLD FORT MASSAC

The old sea wall at Fort Massac which was constructed a number of years ago for the purpose of protecting the park property from the inroads of the Ohio River, has been damaged by a change in the current of the river and rather extensive repair work is being done to restore

and to extend it. During the coming season it is intended to build a number of new cement walks in the park and to regravell the roads that have become worn through traffic. The base on which is erected a beautiful marble shaft to General George Rogers Clark, marking his entry into the Illinois country shows some signs of deterioration and decay, and it is proposed to restore it to its former condition. The custodian's home, located in the park, is in splendid condition, and it is a wise arrangement for the custodian to be located where the property lies. The entrance to the park has never been perfectly satisfactory and some changes may possibly have to be made here in the near future.

The restoration of Fort Chartres, located on an abandoned channel of the Mississippi River, near the little town of Prairie du Rocher, in Randolph County, is now complete. This work was undertaken and completed by the State with credit. The bids of contractors were so excessively high and conditions at the place so unsatisfactory that the department thought it wise, in order to assure the completion of the work within a reasonable time, to put its own men on the job. The results have been most satisfactory.

The appropriation made by the last General Assembly was not sufficient to bring the park up to the standard desired by the department, but the money was expended wisely and economically and made a splendid showing as far as it went. It is proposed by the department to ask for additional funds to build a custodian's house and museum combined, in which to store the many priceless relics now owned by citizens living in the vicinity. The department desires again to express its feeling of obligation to the patriotic Fort Chartres Association which has enthusiastically cooperated in restoring the park. The presence of this organization at Prairie du Rocher will assure the maintenance of this site and keep alive the interest in it.

STARVED ROCK

The season of 1920 has been the most successful in the history of Starved Rock. On Labor Day the largest crowd of visitors since the opening of the park was present. The new cement road leading into the park has been finished to a point past the dangerous turn and the roadway is much safer than formerly. Plans now under way call for the completion of this road and for an addition to the dining room at the hotel, making its capacity three times greater than at present. Dormitories for the employees will be constructed in order to give more accommodations to visitors in the present hotel building. Tennis courts will be built.

This park has become so popular with visitors from all over the United States, Mexico and Canada that on an average of a thousand applications for hotel accommodations have been declined weekly. As soon as the deep waterway program has been carried out and the hard road from Chicago to St. Louis, which passes through the park, has been

finished, it is fully expected that this pleasure ground will attract more visitors than now visit the famous Yellowstone Park.

DOUGLAS MONUMENT PARK

The appropriation of \$17,400 by the Fifty-first General Assembly for the rehabilitation of Douglas Monument Park has been sufficient to carry out the plans of the department. The custodian's house has been finished and a permanent custodian to care for the grounds and visitors has been employed. The walks both inside and outside the grounds have been repaired. The monument and sarcophagus have been repointed, cleaned and repaired. The work of vandals and trespassers made many of these repairs necessary.

Lincoln Monument and Lincoln Homestead, both located in the city of Springfield, are yearly attracting more visitors from all parts of the world. The usual maintenance and repair work has been done and both of these properties are kept in excellent condition by efficient custodians. Perhaps the most distinguished visitor the State has entertained in many years was King Albert of Belgium, who, with his royal party, made a special visit to Springfield as the guest of Governor Lowden and the city, to pay respect to the memory of the immortal Lincoln.

OLD SALEM PARK

The work of restoration at this place has progressed very satisfactorily. The museum and custodian's cottage are rapidly nearing completion and plans have already been approved for the restoration of ten or twelve more log cabins, and for landscaping and laying out the grounds in conformity with their appearance when Lincoln resided there. The ladies of the Old Salem Lincoln Association have most graciously undertaken the task of furnishing these log cabins and the cooperation of the association itself with the department and the interest manifested by the community assures success to the plans of the State to make this one of the most beautiful and truly historical and interesting spots in Illinois.

DIVISION OF PRINTING

H. L. WILLIAMSON, *Superintendent*

The Division of Printing is one of the seven divisions of the Department of Public Works and Buildings, and is under the administration of the Superintendent of Printing, who is charged with the duty of making purchases of the following: Printing, binding, ruling, lithographing, embossing (steel die), engraving (photo and copperplate), eradicators, pens, pencils, stapling and numbering machines, stenographers books, paste, mucilage, sponge cups, paper weights, scissors, ink wells, pen racks, sponges, brass paper fasteners, erasers (rubber or steel), rubber bands, gold seals, art gum, pen holders, record books (loose leaf or tight bound), typewriter ribbons and oil, letter clips, key rings, rulers, paper (all kinds, including toilet paper), ink (writing, printing or drawing), print shop supplies; multigraph, neostyle, stenotype and mimeograph supplies; supplies for filing cabinets, loose leaf binders; newspaper advertising, school supplies, blue print paper.

In addition to above, any other article for office use, except equipment.

These supplies are purchased for all the elective State officers, the Appellate Courts, Supreme Court, charitable and penal institutions, normal universities, State Fair, Teachers' Pension and Retirement Association, all departments under the Civil Administration Code, Constitutional Convention, and the General Assembly.

CONTRACTS

Most of these supplies are bought under the following contracts which are for the period beginning July 1, 1919, and ending July 1, 1921:

Printing, First Class—Legislative bills, resolutions and conference reports: Phillips Brothers, Springfield, Illinois.

Printing, Second and Third Classes—Legislative journals, synopsis, legislative digest, reports of committees, session laws, and all reports bound in cloth or leather or partly bound in cloth, leather or paper: Illinois State Journal Company, Springfield, Illinois.

Printing, Fourth Class—Statements, briefs and abstracts for the Attorney General: Phillips Brothers, Springfield, Illinois.

Printing, Fifth Class—Election registers: Illinois Printing Company, Danville, Illinois.

Printing, Sixth Class—Pamphlets, reports and documents with paper covers: Illinois Printing Company, Danville, Illinois.

Printing, Seventh Class—All printing not included in previous classes and all blanks and forms: Illinois State Journal Company, Springfield, Illinois.

Lithographing—Illinois Lithographing & Label Company, Chicago, Illinois.

Binding—Jefferson Printing Company, Springfield, Illinois.

Paper, Class 1—Book paper: Bradner Smith & Company, Chicago, Illinois.

Paper, Class 2—Bond and writing paper: Whiting Paper Company, Chicago, Illinois.

Paper, Class 3—Cover, bristol, manila and blotting: Bradner Smith & Company, Chicago, Illinois.

Paper, Class 4—Wrapping paper, twine and toilet paper: Bradner Smith & Company, Chicago, Illinois.

Paper, Class 5—Commercial and manila envelopes: Bradner Smith & Company, Chicago, Illinois.

Stationery Supplies—Illinois Printing Company, Danville, Illinois.

Typewriter Supplies—Miller-Bryant-Pierce Company, Aurora, Illinois.

On all requisitions for work or supplies not under contract quotations are asked for and order placed with lowest bidder. All quotations are filed with the requisition and are open to public inspection.

All the printing contracts contain clauses specifying "paper to be furnished," "uniform size and style," "type to be used," etc., and under the caption of "Contractor's Duties" specify that "the contractor shall execute within such reasonable time as the Superintendent of Printing may require and in a manner acceptable to such Superintendent all orders for printing issued to him; it shall be incumbent upon the contractor for any class or subclass of printing to supply such material and appliances as are in the judgment of the Superintendent of Printing reasonably necessary for the prompt and workmanlike execution of the work. The contractor * * * shall read and correct first proofs of all work done by him and see that the same is reasonably free from errors, properly made up in accordance with the orders of the Superintendent of Printing, uniform in style, punctuation, and capitalization and conformable to copy furnished. A corrected proof shall then be sent to the Superintendent of Printing, who shall read the same."

(Before printing, proofs are sent to the department or division making requisition, so that the probability of error is greatly reduced.)

The contracts for paper specify "standards of quality," etc., while the contract for stationery and typewriter supplies specify the "contractor's duties" and guards against "unreasonable delay."

The contract for binding contains similar clauses.

These contracts are published in a book of 128 pages, a copy of which can be secured by any person interested sending his address to the Superintendent of Printing.

APPROPRIATION FOR PRINTING

The appropriation for printing for the 24 months ending June 30, 1921, for the elective officers, courts, departments, etc., was made to the Department of Public Works and Buildings in one sum.

The accompanying table shows the amount appropriated, bills passed for payment, balance and per cent unexpended:

FINANCIAL STATEMENT AS OF JUNE 30, 1920.

Department.	Biennial appropriation	Bills passed.	Balance	Per cent unexpended.
Governor.....	\$ 2,000.00	\$ 1,775.00	\$ 225.00	11.25
Lieutenant Governor.....	500.00	8.00	492.00	98.40
Secretary of State.....	175,000.00	89,829.00	85,171.00	48.67
Illinois State Library.....	4,000.00	322.00	3,678.00	91.95
Library Extension Commission.....	2,000.00	1,088.00	914.00	45.70
Auditor of Public Accounts.....	50,000.00	14,680.00	35,320.00	70.64
.....	6,000.00	1,584.00	4,416.00	73.93
.....	60,000.00	15,578.00	44,422.00	74.04
.....	25,000.00	9,888.00	15,112.00	60.45
.....	2,800.00	1,335.00	1,465.00	52.32
.....	800.00	74.00	726.00	65.75
.....	1,600.00	401.00	1,199.00	74.94
.....	860.00	615.00	245.00	6.82
.....	27,500.00	4,639.00	22,861.00	83.13
.....	40,920.00	19,738.00	21,182.00	51.76
.....	18,200.00	8,693.00	9,507.00	52.24
.....	9,000.00	3,114.00	5,886.00	65.41
Buildings.....	49,680.00	22,947.00	26,733.00	53.81
.....	60,000.00	28,535.00	31,465.00	52.44
.....	35,000.00	13,146.00	21,854.00	62.44
.....	90,500.00	28,024.00	62,476.00	68.04
Education.....	58,200.00	16,821.00	41,379.00	71.10
.....	13,000.00	2,767.00	10,233.00	78.71
.....	10,000.00	1,568.00	8,432.00	84.32
.....	20,400.00	2,865.00	17,535.00	85.95
.....	11,000.00	725.00	10,275.00	93.41
.....	400.00	.....	400.00	100.00
.....	32,000.00	7,198.00	24,802.00	77.50
.....	5,000.00	0.00	5,000.00	100.00
.....	4,400.00	1,382.00	3,018.00	68.36
.....	700.00	650.00	50.00	7.14
Total.....	\$316,280.00	\$301,067.00	\$15,213.00	4.81

In addition to above, purchases were made for the following institutions and divisions for which the appropriations were made direct to the institutions and divisions:

G. A. R.....	\$ 159.17
Horticultural Society.....	5,592.29
War History (Illinois State Historical Society).....	10,505.82
Teachers' Pension and Retirement Fund.....	1,931.89
Immigrant Commission.....	132.72
Survey, Physically Handicapped.....	93.40
Custodian—Supreme Court.....	207.61
Librarian—Supreme Court.....	251.14
Judges—Supreme Court.....	245.99
Marshal—Supreme Court.....	786.49
Illinois Poultrymen's Association.....	31.25
Pension Commission.....	400.00

Firemen's Association	\$ 1,000.75
Beekeepers' Association	56.10
State Fair	8,883.62
Social Hygiene (Health)	4,909.64
Vocational Education	1,875.60
Welfare—Toilet Paper (alone)	7,332.32
Constitutional Convention	15,568.38
Total	\$59,965.74

SUPPLY OF PAPER ON HAND

Paper is purchased by the Division of Printing from the five contractors referred to under the heading of "Contracts" on a preceding page. The wants of the different elective officers, departments, divisions, institutions, courts, etc., are anticipated, as far in advance as possible, and paper is purchased in large quantities and stored with the contractors and also in our several storage houses.

All purchases are made with the transportation f. o. b. Springfield or destination of order.

The inventory of paper stock on hand July 1, 1920, follows:

Old Arsenal	\$44,460.41
Basement (State House)	8,760.13
Hillier's Fireproof Storage & Transfer Company	23,752.93
Jefferson's Printing Company	3,497.11
Illinois Lithographing & Label Company	6,166.81
Illinois State Reformatory	10,139.77
Phillips Brothers	7,466.59
Illinois State Journal	5,715.48
Schnepp & Barnes	5,382.84
Illinois Printing Company	15,584.34
Miscellaneous	12.94
In transit from one contractor to another	8,865.08
Supply Department	13,906.26

Total **\$153,660.69**

Through the system of contract and wholesale buying and storage inaugurated by the Division of Printing since coming under the Administrative Code, requisitions are filled more promptly and at less cost.

A modern system of keeping accurate track of stock is maintained by the division. Just as a banker can tell any patron the exact amount of his balance at any time, so this division can tell anyone interested what amount of paper stock is available, and where stored. A comprehensive stockbook, from which stock is charged off as used, is the governing book of the system.

STANDARDIZING SIZES AND UNIFORMITY OF BLANKS

As far as it is possible to do so, the blanks have been made of standard size and of a uniform nature so that all departments and institutions can use them. This enables a large supply to be printed at one time and placed in the store room. This not only saves expense but avoids delay. When the blanks are of standard size the paper cuts without waste.

STORE ROOM WITH POWER CUTTER

The store room is located in the basement of the State House with a power cutter intact. This has proven to be quite a saving as well as a convenience. In this store room the stock is cut to suit the needs of the

different offices. All scratch pads are made from scraps of paper and obsolete blanks and these pads are furnished to the different departments and institutions free.

REQUISITIONS AND ORDERS

When a requisition is received in this division it is assigned to the proper section for attention. For instance, a requisition asking for printing is assigned to the printing estimator and a cost ticket is written showing the actual amount to be paid for the work. This cost ticket also shows the size, weight, color and amount of stock to be used and from what storage it is to be supplied. Then the requisition is passed on to the order writer who makes the necessary orders in quadruplicate. The first copy of the order is sent to the contractor. The duplicate copy remains in the office of the Superintendent of Printing for his records. The triplicate copy is sent to the Secretary of State for the information of his shipping department, and the quadruplicate copy is sent to the department making the requisition so they can be advised of the purchase. The quadruplicate copy remains in the possession of the department until delivery is made by the contractor, when the department signs, in a place provided for their signature, acknowledging receipt of the goods and returns it to the Division of Printing. Upon receipt of this information the Division of Printing approves the invoice of the contractor and forwards it for payment. During the period of July 1, 1919, to June 30, 1920, 14,860 orders were written.

If the department neglects returning quadruplicate order acknowledging receipt of goods, they are reminded by a follow-up system and thus the risk of losing discount on invoice is reduced.

ACCOUNTING WORK

This system of handling orders has been brought about through the efficiency of the Civil Administrative Code under the direction of the Department of Finance. The quadruplicate copy of the order going to the department from time to time, showing the cost of the purchase, enables them to keep a check on their appropriation, and this is supplemented by a monthly report to all departments, showing expenditures made, the bills which have not been paid, the amount of the contracts which have been entered into, the actual orders placed, for which the goods and invoices have not been received. This report shows the departments the amount of their appropriations available for any further expenditure. This detail necessitates accurate accounting. Realizing this, the Department of Finance, after a study of this division's requirements, planned and provided a comprehensive, economical, and uniform system of bookkeeping and accounting, which was installed October, 1917. This system has greatly reduced the nonproductive work of the division and has stood all tests in meeting every requirement for the

accuracy so essential in recording work of a technical and involved character.

DISCOUNTS

The Division of Printing has deducted from July 1, 1917, to June 30, 1920, \$8,221.86 from invoices for discounts on bills. This was made possible by prompt payment of bills.

Report of
THE DEPARTMENT OF PUBLIC WELFARE
"From July 1, 1919, to June 30, 1920"

THE DEPARTMENT OF PUBLIC WELFARE

CHARLES H. THORNE, *Director*

JAMES E. MCCLURE, *Assistant Director*

FRANK D. WHIPP, *Fiscal Supervisor*

JOHN L. WHITMAN, *Superintendent of Prisons*

A. L. BOWEN, *Superintendent of Charities*

WILL COLVIN, *Superintendent of Pardons and Paroles*

H. DOUGLAS SINGER, M. D., M. R. C. P., *Alienist*

HERMAN M. ADLER, M. D., *Criminologist*

Division of Visitation of Adult Blind, Chicago

CHARLES E. COMSTOCK, *Managing Officer*

Division of Visitation of Children, Springfield

CHARLES VIRDEN, *State Agent*

State Psychopathic Institute, Chicago State Hospital, Dunning

H. DOUGLAS SINGER, M. D., M. R. C. P., *Alienist*

Institute for Juvenile Research, 721 South Wood Street, Chicago

HERMAN M. ADLER, M. D., *Criminologist*

ILLINOIS STATE INSTITUTIONS

Elgin State Hospital, Elgin, RALPH T. HINTON, M. D., *Managing Officer*

Kankakee State Hospital, Kankakee, EUGENE COHN, M. D., *Managing Officer*

Jacksonville State Hospital, Jacksonville, E. L. HILL, M. D., *Managing Officer*

Anna State Hospital, Anna, CYRUS H. ANDERSON, M. D., *Managing Officer*

Watertown State Hospital, Watertown, M. C. HAWLEY, M. D., *Managing Officer*

Peoria State Hospital, Peoria, RALPH A. GOODNER, M. D., *Managing Officer*

Chester State Hospital, Menard, FRANK A. STUBBLEFIELD, M. D., *Managing Officer*

Chicago State Hospital, Dunning, CHARLES F. READ, M. D., *Managing Officer*

Alton State Hospital, Alton, GEORGE A. ZELLER, M. D., *Managing Officer*

Lincoln State School and Colony, Lincoln, C. B. CALDWELL, M. D.,
Managing Officer

Dixon State Colony, Dixon, H. B. CARRIEL, M. D., *Managing Officer*

The Illinois School for the Deaf, Jacksonville, H. T. WHITE, *Managing Officer*

The Illinois School for the Blind, Jacksonville, R. W. WOOLSTON, *Managing Officer*

The Illinois Industrial Home for the Blind, 1900 Marshall Boulevard, Chicago, H. O. HILTON, *Managing Officer*

The Illinois Soldiers' and Sailors' Home, Quincy, COLONEL J. W. REIG, *Managing Officer*

The Soldiers' Widows' Home of Illinois, Wilmington, MRS. NETTIE M. MCGOWAN, *Managing Officer*

The Illinois Soldiers' Orphans' Home, Normal, JOHN W. RODGERS, *Managing Officer*

The Illinois Charitable Eye and Ear Infirmary, 904 West Adams, Chicago, H. J. SMITH, M. D., *Managing Officer*

The St. Charles School for Boys, St. Charles, COLONEL C. B. ADAMS, *Managing Officer*

The State Training School for Girls, Geneva, CLARA E. HAYES, M. D., *Managing Officer*

Illinois State Penitentiary, Joliet, E. J. MURPHY, *Warden*

Southern Illinois Penitentiary, Menard, JAMES A. WHITE, *Warden*

Illinois State Reformatory, Pontiac, JAMES F. SCOULLER, *General Superintendent*

Illinois State Farm, Vandalia, CHARLES T. HOBLIT, *Managing Officer*

PUBLIC WELFARE COMMISSIONERS

FRANK P. NORBURY, M. D., Springfield

BENJAMIN R. BURROUGHS, Edwardsville

EMIL G. HIRSCH, Chicago

AMELIA B. SEARS, Chicago

ANNIE HINRICHSSEN,

Executive Secretary, Springfield

REPORT OF THE DIRECTOR

CHARLES H. THORNE, *Director*

The report which follows is designed to bring to the front conditions and questions of policy which seem to the officials of the Department of Public Welfare to be of prime importance.

The various subjects presented are stated plainly with the view of giving information as to existing conditions, future requirements which are definitely known, and future probabilities which must be faced.

All discussion is based upon the theory that it is better and will ultimately be cheaper to prevent social disorganization than to care for social wreckage.

THE FUNCTIONS OF THE STATE

The State has been forced by numbers and characteristics to care for the insane, the feeble-minded, the incorrigible and the criminal and there is, in consequence, a tendency to add to the custodial burdens of the State and to view the various problems with a paternalistic eye. This tendency is, in my opinion, a bit dangerous.

The true function of the State is, I think, advisory and supervisory, and it should confine its efforts to such functions except in the few cases like those above cited which, by their character, compel State care, the State being the only agency with sufficient authority and means.

The State already makes mandatory upon local communities certain duties such as education, blind pensions, mothers' pensions, sanitation, policing and some other similar things.

This mandatory power might well be extended and added to by supervisory authority in order to make it effective.

ECONOMY

In stating that the department has endeavored to be economical, I do not mean to imply that there has been any particular effort to save money or to do things cheaply. The effort, on the contrary, has been to render efficient service without waste.

The impossibility of making a continuing policy, of anticipating need of money for unforeseen emergencies and of estimating exactly the requirements for routine service, make a certain amount of waste and inefficiency inevitable.

As time goes on, as markets and general conditions become more stable, methods become more standardized and personnel certain of

tenure, it should become possible to eliminate waste more and more and to increase efficiency correspondingly.

COMMITMENTS TO INSTITUTIONS

The present general practice is for courts, after finding through process of law that a person is of a certain status—namely, insane, delinquent, dependent, criminal or what not—to commit him to a certain institution designed to care for those within the status determined.

Theoretically this may be right, but practically so many mistakes are made, which the department must by some means or other correct, that I feel it would be much better if all commitments were made to the Department of Public Welfare, letting it determine which institution is best fitted to treat the case.

There are many cases in which obviously dependent children are declared delinquent in order to place the burden of their care upon the State and they are sent to institutions for delinquents.

Commitments of insane are made to specific institutions sometimes so overcrowded that they can be cared for only by transferring other patients to less crowded institutions.

Hardened criminals are frequently sent to the reformatory, compelling an arduous process to secure transfer to the penitentiary where they belong.

Feeble-minded children, are many of them sent to institutions for delinquents. We have had cases of dependent and delinquent children committed as feeble-minded; of delinquent boys sent to the penitentiary. In fact all sorts of mixups occur and the department should have the power to straighten them out.

It may be argued, as it has been, that this would place in the hands of the department officials power which rightfully belongs to the judiciary and that it might be abused. The answer to that is that no department official could produce as poor results as are produced under the present system, and as the department officials are obliged to straighten out the tangles anyhow, they might better be given the authority to do it properly in the first instance.

In any event the courts will retain the power to institute *habeas corpus* proceedings.

DEFICIT

In the preparation of budgets covering the biennial period ending June 30, 1921, a conscientious effort was made to estimate the amount needed adequately to cover requirements.

Before making the estimates, every source of information known to us was consulted and the advice of people prominent in commercial and financial circles was obtained, and the conclusions reached were in accordance with honest, uniform opinion.

As everybody knows now, opinions formed two years ago were of small value. Everybody was mistaken as to the trend of prices. Costs instead of being then at the peak, proved to be far below the peak and the anticipated general reduction in prices did not appear until September, 1920. Even now it is not certain whether the reductions are complete or permanent, some opinions having it that reductions will be still greater, and others that prices will again go up somewhat.

Deficiencies in all accounts, excepting that of operating supplies and expenses, will be nominal, if any.

In the account of operating supplies and expenses there will be a deficit of probably as much as \$1,800,000 due almost entirely to the tremendous increases in the price of food and fuel, and as the entire population has suffered from these high prices, everybody is familiar with the facts and it seems unnecessary to explain further.

STATISTICS

The department has heretofore not had facilities for obtaining statistics necessary for the proper study of the subjects pertaining to the work in which it is engaged, nor for a proper presentation of results obtained.

During the past year, through the kindness of the New York State Hospital Commission, we obtained the services of Doctor H. M. Pollock, chief statistician. Under his direction there has been developed a scheme for obtaining a very complete set of statistical data, more complete probably than that of any other state in the Union at present. Unfortunately, however, we have not had the money nor the authority to obtain first class statisticians able to interpret the statistical data.

The ordinary statisticians found upon the available lists of the Civil Service Commission do not fill the requirements, a statement which will readily be understood by an examination of the statistical output of the New York State Hospital Commission. What they are doing is about what we should be doing.

BUILDINGS

Appropriations were made for a rather liberal building program intended to provide existing institutions with the most needed improvements and for the enlargement of the newer institutions in order to keep up with the increase in population. Tremendously increased costs of building operations very greatly delayed and at one time threatened to prevent the building program entirely. By utilizing patient labor, opening quarries, gravel pits and sand pits on institution grounds, and making several hundred thousand concrete blocks, we have managed to bring things to the point where it is safe to say that by the end of the biennium the money appropriated will have secured about 70 per cent of expectations.

An effort has been made to secure a list of the needs of each institution covering additions, repairs and replacements for a period of ten years, and while the effort has not been completely successful it, nevertheless, will enable anyone by examination to determine the approximate requirements of each institution to bring it to a completed state with adequate facilities and everything in good repair. Looked at as a single operation, the requirements of each institution appear formidable and hopelessly expensive, but when carried over a period of ten years the expense is not unduly exorbitant, providing consideration is given to the fact that the list includes the many shortcomings of the past, for it must be recognized that the buildings of the State institutions have not heretofore had the upkeep necessary.

FOOD

A great effort was made to secure, in all institutions, food of sufficient quality, quantity and variety to equal the requirements set down by the medical profession as necessary for the proper nutrition of the various classes of patients. While the food service in general is undoubtedly better than it was, it is by no means what it should be, and will not be until the necessary foodstuffs can be obtained promptly and at a reasonable cost nor until competent dietitians are secured and until the facilities in kitchens, store rooms, cold storage, dining rooms, etc., are brought up to standard.

Dietitians are necessary, as it is quite unreasonable to expect proper selection of food, proper cooking and serving except under direction of trained persons. The ordinary chief cook is not competent to take general charge of the service and dietitians are not obtainable at present for two reasons: first, because there are not very many of them equal to the task of an institution; and second, because the State has not quite reached the conclusion that real knowledge is essential in certain places and must be well paid, well housed and secure in position.

MILK

It seems to be conceded that milk is not only a necessary food but that even at present high costs, it is the cheapest food obtainable, and yet we have not enough of it in a number of the institutions. While we have attempted to provide sufficient herds to take care of our requirements, it has been impossible to do so in all cases. In some institutions we have not sufficient land to care for enough cattle; in others the cattle have been condemned as tubercular and we have not been able to replace them from their own increase as fast as they were destroyed, and we were without funds for purchasing additional cattle. Wherever milk was short, managing officers were instructed to purchase from the outside, but in some localities it is not obtainable, and where we had the combination of short herds and unobtainable outside supplies we have been unable to serve the necessary quantities.

In a number of the institutions, however, we not only have very fine herds but we have an abundance of milk.

Where our herds are not large enough for our needs, appropriations have been requested to bring them up.

OCCUPATIONAL THERAPY

The department has, through the enthusiastic cooperation of all institutions, succeeded in instituting occupational therapy, which means giving the patients, in State hospitals particularly, training in habits of applied attention. It is a form of treatment which makes the patients happier, less liable to deterioration, easier to care for and more orderly.

Occupations are selected: first, to be attractive to the patient and second, to serve as a basis for future vocation and productive industry. While the work performed is intended for treatment rather than for useful output, a great deal of value is derived from it and the general sentiment is that occupational therapy is good. It can and should be further extended as trained personnel becomes available and as space and opportunity can be created.

COURT JURISDICTION

In the cases of criminals, insane and dependents, apparently the jurisdiction of the court ceases upon commitment and the future care of the patient rests with the department. In the cases of feeble-minded and delinquent children, the courts retain the power of release. This power should be taken from them because it is sometimes abused and is not necessary. Some of the most incorrigible of children have been released over the protests of the officials of the institutions. The power of release should rest with the department through the parole system or by age limitations.

This argument applies only to State institutions and is advanced with the hope that someone will, in the near future, investigate the subject more thoroughly and make proper recommendations, including the necessary safeguards.

SOCIAL WORK

For some reason, probably because the subject is not generally understood, the name "social worker" almost invariably excites the amused ire of those not familiar with the work. Perhaps "social nurse" would be better. In reality social work represents the means of providing the information necessary to make a diagnosis of a patient.

The examination for diagnosis made by a physician includes a great many questions designed to indicate the history of the onset of the trouble to be diagnosed. By careful and shrewd questioning a proper history ordinarily can be obtained when dealing with people of sound mind, but it is different when dealing with the insane, with the feeble-minded, the incorrigible or the criminal, classes who either can not or frequently will not tell the facts.

A minute history of all cases is not necessary, but some knowledge of the patient, his history, his home and environment and his immediate ancestors is necessary if a reasonable diagnosis for treatment is to be made.

In the hospital service this seems to be fairly well understood, but to many minds it seems absurd when applied to criminal cases, and yet a criminal must be regarded as a patient because the department is obliged to apply corrective treatment, whether medical, physical, educational or otherwise, in order to restore him to society able and willing to be self-sustaining and to live in peace with his fellows. Public welfare, especially in relation to children, cannot be conducted without social service.

Reports which follow will show conclusively the need of social service if good work, especially along the line of preventive treatment, is to be done.

STATE HOSPITAL CLINICS

Experiments in extension work have been conducted by the State hospitals for the purpose of making available the consultation facilities of the hospitals in nearby communities; upon the theory that it is cheaper and more effective for the hospital to go to the people than to wait for the people to come to the hospital.

The Chicago State Hospital has conducted weekly a clinic at the stock yards in Chicago, and the Jacksonville State Hospital, one in Springfield, one in Decatur and one in Jacksonville. The Elgin State Hospital also conducts a clinic in Elgin.

Extension work operates also in supervising paroled patients and thus permits more and earlier releases from custodial care. Reports of the managing officers of the institutions mentioned go into enough detail to show that the service is valuable and should be greatly extended.

INSTITUTION FARMS

The effort to secure from the farm and garden lands attached to the different institutions the greatest possible amount of food production has been constant and the results have, on the whole, been very profitable, garden failures in one institution because of dry weather being made up by unusually favorable conditions at another. The idea of making each of the larger institutions as nearly self-sustaining as possible should be persistently followed.

With farm labor costing almost nothing extra and without taxes, it is evident that if there is any one thing that the State can afford to own it is farm land adjacent to institutions. Some of the older institutions have not enough and they should have more although requests are not made in the budget for the reason that heavy costs would make the apparent figures run into excessive sums. More farm land to the value of some hundreds of thousands of dollars would pay its way, but it is a

matter of legislative policy and is referred to the legislature with the suggestion that it make active investigation of the subject outside of the budget.

TRAVELING CLINICS (EYE AND EAR)

Under an appropriation which was granted to the Eye and Ear Infirmary for traveling, there was sent out to southern Illinois an experimental clinic under the leadership of Doctor E. V. L. Brown of the University of Illinois College of Medicine, primarily for the purpose of discovering the prevalence of trachoma, an eye disease which is contagious and leads to blindness. The first clinic was opened at Mt. Vernon, with later branch clinics at several other places.

In going into this work, the department has been careful to maintain its proper advisory functions and has afforded direct treatment only to indigent cases. The results of the work are rather startling and show that there exist a great many cases not only of trachoma but other diseases of the eye, as well as many other causes of social distress. Over one thousand cases have been brought out which were heretofore hidden, and the great value of the work lies in the fact that it discovers hidden cases and represents preventive treatment. Roughly, it may be said that we have found ten times as many cases as we would by institution methods, at one-tenth of the cost per case, making a total result one hundred times as effective. The cost per case is less than \$3.00.

Because all costs have so greatly increased, it has not been thought advisable to include anything in the budget for the continuation of this work, but the matter is respectfully called to the attention of my successor and to the legislature, with the hope that it may be taken up independently of the budget, because it seems to be a means of reaching the greatest number of people in the least expensive way, although it has the demerit of being a type of service which has no apparent limits, and if too greatly extended might call for more money than the State is able to pay, even though the value of the work is without question.

REHABILITATION OF PHYSICALLY HANDICAPPED

The Fifty-first General Assembly in passing Senate Bill 449, placed upon the Department of Public Welfare the general duty of finding and, in so far as possible, rehabilitating all physically handicapped people to the point of making them self-sustaining. It appropriated to the department \$10,000 for making a survey of conditions. The bill is so broad in its terms that the State might easily be led into a series of expensive hospitals and a more or less paternalistic method of control.

To avoid these dangers a great deal of preliminary study was made and competent advice sought with the result that a few general principles were laid down upon which to conduct the survey. Of these principles, the chief one was that existing facilities should be used.

Mr. William T. Cross was appointed survey officer and, though limited in funds and in time, has produced a rather comprehensive report covering a very complex subject. The report is attached and made a part of the biennial report of the Department of Public Welfare.

CHILD WELFARE

There can be no doubt that there rests upon the State as the representative of collective society, the general duty of seeing to it that all children who are mentally and physically fit have a fair chance at life and that all children mentally or physically unfit have care provided for them in accordance with their needs. The problems of childhood are so many and so complex that it has not yet been determined what is the duty of the State with regard to them. Because there is so little knowledge upon the subject, the State has, until now, confined itself to rather unsatisfactory methods of caring for a few types of children who have been cast upon the social ash heap.

So many problems of childhood are presented to us for which we have no answer, that it was determined, if possible, to secure a comprehensive report covering all phases of the subject. In January, 1920, there was called together from all parts of the State a body of citizens who were more or less familiar with the various phases of childhood which society encounters.

The outcome of this meeting was the appointment, by the Director of Public Welfare, of a state-wide volunteer committee, with numerous subject sub-divisions, under the chairmanship of Mrs. Ira Couch Wood, and with Miss Mary Humphrey as a paid executive secretary, to study the entire subject and present a comprehensive report designed to determine the duty of State, public and private agencies with relation to children, and how and by whom each phase of the child problem should be handled. The committee was requested to avoid paternalism, to be constructive and to be comprehensive. The report of the committee is attached and is made a part of the biennial report of the Department of Public Welfare.

THE PAROLE SYSTEM

Much criticism has been aimed at the parole board, almost always, however, unfairly and without knowledge of the facts. A part of the criticism is due to the lack of distinction between county jails and State institutions and between parole and probation. The so-called "ex-convict" is not necessarily a paroled or discharged inmate of a penitentiary or reformatory.

The punishment for criminal action lies in the conviction and sentence. Sentences to State institutions being for limited periods, it immediately becomes the duty of the department, as contemplated by law, to undertake the training of the criminals for the purpose of making

them fit to re-enter society when their sentence expires; otherwise they would re-enter unfit.

The business of the parole board is to determine when prisoners are fit to re-enter society. In making this determination, each case is studied as to causes, the crime, the mental and physical condition of the prisoner, his attitude of mind and general conduct while in the institution. Mistakes have been made, of course, but they have not been made through loose methods. The net result of the system as now conducted has been an increase in the time served, averaging nearly double what it was prior to the present administration of the parole system.

Attacks upon the parole system will not reduce crime, increase the brain power of defectives, nor become an effective substitute for the shortcomings or abuses of the police and judicial systems. The "police power" is a power of local communities and communities should control disorders within their limits.

RESEARCH AND EDUCATIONAL HOSPITALS

This group of hospitals is in process of construction in the west side hospital district of Chicago. To my mind it represents the biggest step forward the State of Illinois has taken in many years.

In considering the importance of this group of hospitals, it is necessary first to face facts. Briefly stated, the facts are that insanity, feeble-mindedness and delinquency represent the greatest problems with which society has to contend. These three problems cost the State approximately one-fourth of its revenue.

Only custodial care has been provided, treatment being incidental and applying only to the terminal stages of insanity. Research into the causes of these diseases, with the view of applying preventive measures and treatment, has been casual, scantily provided for and conducted by an administrative department. Research is a university function and not an administrative function. To perform its functions the university must have adequate facilities.

At present we have a State University conducting a College of Medicine, which has been conceded to be a proper department of the University, without the essential hospital facilities necessary for teaching and for research into the causes and treatment of disease.

The geographic, commercial and agricultural position of Illinois has produced within its borders one of the greatest cities of the world, a fact which compels Illinois to become a center of influence for many things, including medicine, for a very large surrounding territory.

Having recognized that the study of medicine is a proper function of its University, and its University being compelled by its position to be either a great center of influence or a nonentity, pride alone demands that the State of Illinois provide its University with better facilities than can be afforded by any other agency.

The functions of the Department of Public Welfare being administrative, and the functions of the University College of Medicine being professional, each having the facilities required by the other, each being the complement of the other and both being creatures of the State, it becomes an ordinary economic fact that the resources of the two departments should be correlated so that each may perform its proper function, obtain the maximum of efficiency which each can offer to the other, avoid duplication and make possible a highly desirable service which neither can fully perform alone.

The group of buildings which are already in process of construction include a clinical hospital for general medical purposes, an eye and ear infirmary, a psychiatric institute and a surgical institute for crippled children.

The money provided by the Fifty-first General Assembly for these buildings will not, of course, provide more than half of the program contemplated, a fact which is stated without apology because the building conditions during the last two years are sufficiently well known to everybody fully to explain the shortcomings.

The buildings, as contemplated, will be costly. They are made so deliberately for the purpose of obtaining a plant which will provide facilities adequate for the work to be done, which will produce something good to look upon and not subject to undue deterioration, which may be regarded with pride rather than with regret hereafter, and in recognition of the fact that the expensive thing is the thing which is badly or cheaply done in the first instance.

To complete the present buildings ready for operation will require a million dollars, and to add to the plant the necessary large and adequate laboratories, libraries and other hospital and training school units will require ultimately enough additional money to bring the total cost up to an approximate figure of ten million dollars for the plant; not all at once, but unit by unit. This seems a large sum, but it is well within the means of the State of Illinois and is something which should not be dodged because it is required if the State is to do its full part in education and research.

For research the State should appropriate liberally and provide every possible facility. Such appropriations should be regarded as insurance premiums because, as has been frequently stated, one small discovery relating to the prevention or curative treatment of insanity or any one phase of insanity or of crime will repay itself a thousand fold.

When the time comes, as it will come, that the State recognizes its full duties in the way of public health and the necessity of supervising the examination of children in schools, this group institution can and should be made the center from which shall radiate all forms of knowledge pertaining to the health and welfare of human beings.

NEW INSTITUTIONS NEEDED

The Insane.

The insane in institutions have not increased in number to an appreciable extent since the beginning of the war. Prior to that time the annual increase in number averaged about $3\frac{1}{2}$ per cent.

It is now assumed that with the ending of war-created conditions and the resumption of the more difficult economic conditions common to the average of so-called normal times, the commitments of insane to institutions will soon begin to resume normal proportions and the increase should be anticipated because it takes about four years to build an institution.

The central and southern parts of the State are served by four institutions, and the northwest corner by one institution, and for those districts the capacity seems ample for the present.

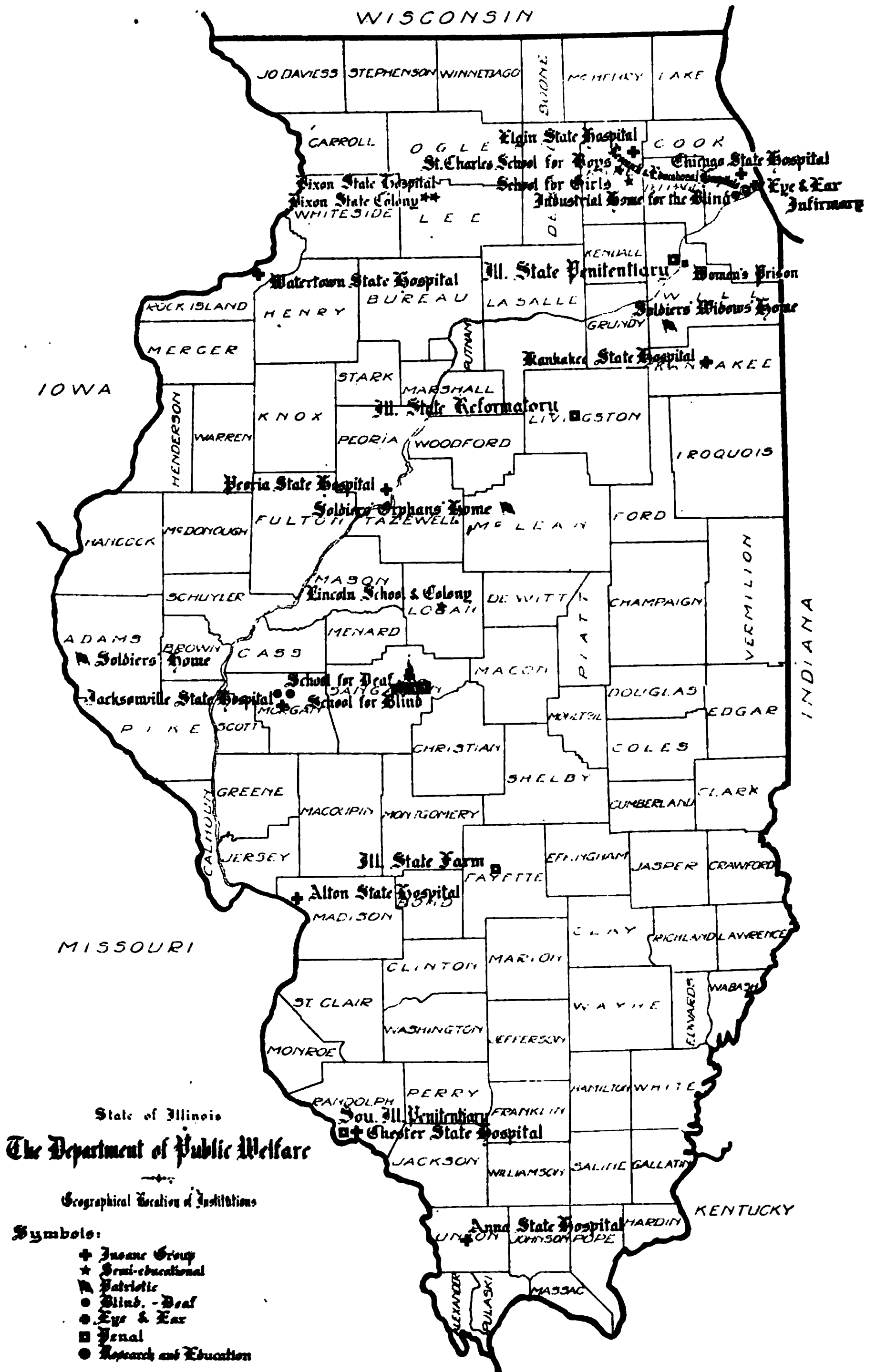
The northeast quarter of the State is served by but three institutions and as that quarter of the State contains perhaps 60 per cent of the population, the reason for the shortage of facilities in that quarter becomes evident. As a matter of fact, the Chicago, Elgin and Kankakee State Hospitals, particularly the first two, are very much over-crowded. All of them are practically completed institutions insofar as numbers go. Any increase in the dormitory capacity of the Elgin State Hospital will throw out of balance all of its other facilities. It should be gradually rounded out and considered complete.

The Chicago State Hospital, by its adjacency to the city of Chicago, is more expensive and more difficult to handle than any of the other institutions. It receives larger numbers of infirm, foreign speaking and uneducated insane than any other institution. Being within street car service it suffers from an enormous number of visitors who, through their influence and unsuitable gifts of food, excite the patients. They even go so far as to furnish them with the necessary carfare for the purpose of escape.

The Chicago State Hospital was taken over from Cook County and represented an old and unsuitable plant. Modern additions have been made, but the plant on the whole remains an old one, expensive to operate, expensive in upkeep and generally less suited for the care of the insane than any of the other State hospitals.

If the Chicago State Hospital is to be continued with even its present capacity it will be necessary, in a comparatively few years, by continuous process of replacement, to spend three or four million dollars with a final outcome of an institution costing about double per capita that of any other.

I think the time has come, because of greatly increased costs if for no other reason, to plan for another institution serving Cook County and the extreme northeast portion of the State. It should be located at a



point from twenty to thirty miles from the city of Chicago on a main line railroad and at a junction point if possible. Being new it could readily be planned to care for the increase in the insane population in the north-east quarter of the State for many years to come. There is no particular reason why such an institution could not contain five or six thousand patients, if planned for in the beginning and if all buildings were planned with the idea of making extensions as needed.

The Chicago State Hospital should gradually be reduced to care for the senile and infirm from Cook County and as a receiving and distributing station.

It is recommended that an appropriation be made for securing not less than one thousand and perhaps as much as two thousand acres for a new institution during the next biennium, and that an additional appropriation be made for the purpose of making plans for the institution with the expectation of appropriations for the beginnings of buildings during the biennium following.

The Feeble-minded.

The feeble-minded are in a measure provided for by the work going on now at Dixon. The present appropriations available will provide accommodations for approximately seven hundred feeble-minded, and appropriations will be requested for continuing the building program during the next biennium.

Lincoln is still overcrowded, there are two or three hundred applications in hand and the demand will undoubtedly increase as rapidly if not more rapidly than facilities can be provided.

The problem of the feeble-minded is greater than any one supposed it to be until recently, and while the additions which will be asked for at Dixon will furnish all the department can do during the next biennium, it must be expected that continuing appropriations will be requested until the Dixon institution is completed, to be immediately followed by a call for a third institution.

Whatever has been accomplished by the Department of Public Welfare during the administration now ending has been due to the good will and cooperation of all members of this and other departments, and I wish to express my appreciation.

REPORT OF FISCAL SUPERVISOR

FRANK D. WHIPP, *Fiscal Supervisor*

Illinois with her rich historical back-ground has added more achievements to her splendid record in the efficient and economic manner in which her State institutions have been conducted during the past biennium, and in this respect she ranks high among the states of the Union.

A review of the important work of the department, including the repairing of humanity and caring for the sick, shows that with the means provided, the State institutions have been able to reclaim for society considerable of human waste and wreckage which otherwise would have been a burden on the taxpayers. The State has been most liberal in providing for the unfortunates, and the department officials generally have made an honest effort to conserve public funds appropriated for institutional purposes, and to use them where they would do the most good.

Unexpected high prices of the necessities and increased cost in almost all the divisions have created large deficits in many of the operating accounts. Two years ago, when the estimates covering appropriations were made, it was predicted that costs would materially decrease, but lower prices have failed to materialize, and the institutions are now facing a total deficit of \$1,800,000 to \$2,000,000 to pay the operating expenses up to the end of the biennium, and it will be necessary upon the convening of the General Assembly to ask for emergency appropriations to meet bills falling due before June 30, 1921.

In order to make a comparison of expenses of institutions by classes, they have been divided into groups as follows:

Insane group.—Elgin State Hospital, Kankakee State Hospital, Jacksonville State Hospital, Anna State Hospital, Watertown State Hospital, Peoria State Hospital, Chicago State Hospital, Alton State Hospital, and Chester State Hospital.

Feeble-minded group.—Lincoln State School and Colony.

Epileptic group.—Dixon State Hospital.

Educational group.—School for Deaf, School for Blind, Training School for Girls, Training School for Boys, and the Industrial Home for the Blind.

Patriotic group.—Soldiers' and Sailors' Home, Soldiers' Widows' Home and Soldiers' Orphans' Home.

Eye and Ear group.—Eye and Ear Infirmary.

Penal group.—Joliet Penitentiary, Menard Penitentiary, Reformatory and Woman's Prison.

During the year ending June 30, 1920, the institutions of the insane group, with a patient population of 17,028 expended \$4,674,336.96 for all purposes. The annual per capita cost for upkeep, including salaries and wages, office expenses, traveling expenses, operating supplies and expenses, and repairs, was \$265.07.

The expenses of the other institutions computed on the same basis as stated for the insane group, were:

The feebleminded group, with a patient population of 2,057, expended \$634,589.93 for all purposes and the annual per capita cost for up-keep was \$274.12.

The epileptic group expended for all purposes a total of \$198,833.93.

The educational group with an inmate population of 1,921, expended \$1,016,567.61 for all purposes and the annual per capita cost for up-keep was \$480.99.

The patriotic group with an inmate population of 1,701 expended for all purposes \$586,949.06 and its annual per capita cost for up-keep was \$342.24.

The Eye and Ear Infirmary treated a total number, including inmates and those attending clinics, of 55,547; the total expended for all purposes was \$126,702.64 and the annual per capita cost for up-keep based on numbers treated was \$1.81.

The penal group with 3,578 prisoners, expended for all purposes \$1,869,166.17 and its annual per capita cost for up-keep was \$326.71.

The annual per capita costs for the year ending June 30, 1920, of food purchased, not including food produced on farms, gardens and in dairies, nor the cost of cooking and serving, divided into different institutional groups were: insane group, \$81.20; feebleminded group, \$93.07; epileptic group, \$81.02; educational group, \$101.10; patriotic group, \$105.39; eye and ear group, \$182.01 and penal group, \$109.57.

In the statistical tables and graphic charts printed elsewhere in this report, will be found the price range on the principal items of the food purchased, and also the range of the price of coal covering the years 1914, 1915, 1916, 1917, 1918, 1919, and 1920. These charts show a recession in prices during the past year on almost all the food products, but the price of coal has steadily advanced.

In the operation of institution industries, there has been an improvement in the method of handling the finances. The last General Assembly passed an act providing for a revolving fund of \$1,000,000 for this purpose. This includes funds for the penal institutions, the Eye and Ear Infirmary, the Lincoln State School and Colony and the Industrial Home for the Blind. This act enables these institutions to use their cash receipts for the purpose of buying raw material and in paying

expenses, and the money can be used as fast as it is turned into the State Treasury, but the fund is now too small to allow much expansion. The legislature appropriated \$1,000,000 to cover the total expenditures for the biennium, but the cash receipts have already gone beyond that sum, and unless the next General Assembly makes an emergency appropriation, to cover the excess cash receipts the industries will be obliged to discontinue.

Up to June 30, 1920, the industries had cash receipts of \$764,324 with a free available balance of \$278,058. However, on November 1, 1920, the account shows that \$1,077,373 had been received in cash, which was \$77,373 more than the million dollars appropriated, and before this balance can become available for use, it will have to be covered by an appropriation from the General Assembly. Outside of the \$77,373, on November 1, 1920, the fund had a free available balance of only \$116,438 to pay expenses for the next eight months. Inasmuch as the appropriation would not be derived from State taxes, and these industries are expected to be self-supporting, and a larger appropriation will allow the industries to grow, it seems but reasonable that the legislature should immediately make an additional appropriation of at least \$500,000 to cover expenses up to July 1, 1921.

The profit and loss statement of the Illinois State Penitentiary at Joliet, the Southern Illinois Penitentiary at Menard, the Illinois State Reformatory at Pontiac, the Industrial Home for the Blind at Chicago, the Lincoln State School and Colony, and the Eye and Ear Infirmary at Chicago, show that the industries of these institutions yielded a net profit of \$233,441.39 during the year ended June 30, 1920, divided among the institutions as follows: Illinois State Penitentiary, Joliet, \$106,429.98; Southern Illinois Penitentiary, Menard, \$82,858.07; Illinois State Reformatory, Pontiac, \$47,190.45; Lincoln State School and Colony, \$117.55; and the Eye and Ear Infirmary, \$4,436.94. The Illinois Industrial Home for the Blind at Chicago created a deficit amounting to \$7,591.60. The net total sales amounted to \$914,511.38, and the total operating expenses were \$227,549.49; the amount of labor earned was \$61,460.15. The amount of stone furnished free to the Division of Highways, \$6,767, and optical goods furnished free by the Eye and Ear Infirmary, amounted in value to \$924.87.

A summary of the production of these institutions during the last year is:

From Joliet, 38,801 chairs, desks, tables, file cases, mattresses, and stools; 17,715 pieces of reed and fibre furniture, 33,616 pairs of shoes for State institutions and 6,636 yards of stone.

From the penitentiary at Menard, the products were, 33,019 dozen pairs of hosiery, 105,083 pieces of clothing and wearing apparel, 1,800,000 brick, 27,072 tons of agricultural limestone dust, 8,095 yards

of macadam stone, 30 yards of rip rap stone and 19 pieces of grave markers.

From Pontiac, 12,924 pieces of fibre furniture.

From Industrial Home for Blind, 15,641 dozen brooms.

From Lincoln State School and Colony, 11,327 brushes.

From Eye and Ear Infirmary, optical department, 3,581 pairs of glasses.

The reimbursement agent of the department reports that during the past two years, \$205,777.52 has been collected by the institutions for clothing furnished inmates; that \$5,862.80 has been received from the Federal Government for the care of soldiers, and that the value of all clothing furnished inmates by relatives and friends was \$326,854. The reimbursement agent has acted in the capacity of deportation agent and reports 354 non-resident inmates being returned to their home states or countries. Of this number 276 were sent to other states in this country and 78 returned to Canada, Mexico, South America, Australia, Greece, England, Ireland, Scotland, Poland, France and Sweden.

The farm, garden and dairy consultant reports that the State now has a total of 13,214 acres of land belonging to the State institutions. At the end of the last biennium, this acreage was only 11,254 but the State has acquired by purchase 800 acres for the Southern Illinois Penitentiary at Menard, and 1,160 acres for the Illinois State Farm at Vandalia. The operation of the farms, gardens and dairies has reached a high state of efficiency and will compare favorably with the farms owned by private individuals and corporations. The total value of farm and garden production for the last five years was: For 1916, \$330,034; for 1917, \$390,123; for 1918, \$549,291; for 1919, \$831,351, and for 1920, \$838,784. The production for this year classified among the following activities was: farm, garden, and poultry \$548,925.87, dairy \$171,884.79, and hogs \$117,974.31. Some of the larger items making up this production were, 584,609 gallons of milk, 737,339 pounds of fresh pork, 78,937 pounds of fresh beef, 31,969 pounds veal, 20,410 pounds of poultry and 23,520 dozen of eggs. In addition to the items mentioned, all of the institutions maintain large gardens, and the vegetables produced reached a total value of \$264,951.

Since the date of the last report, a general policy for conducting farming activities has been adopted, and it has been the duty of the farm, garden and dairy consultant to see that the departmental policies were carried out. The policies outlined by the Director of the department were:

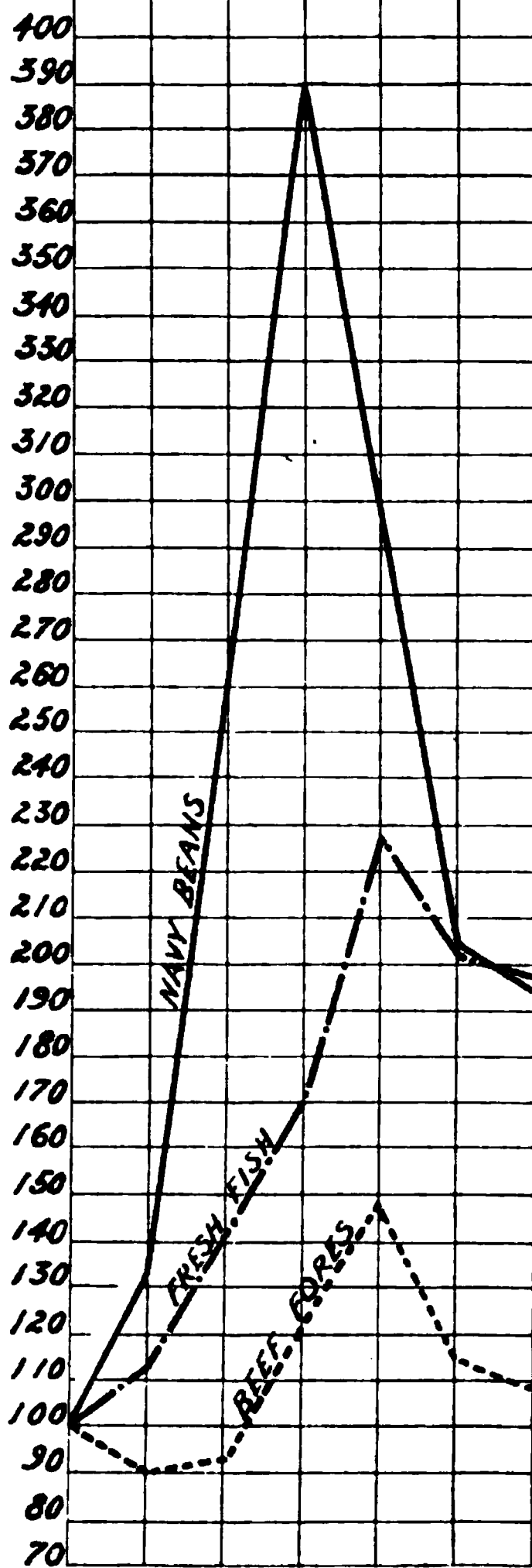
FARM, GARDEN AND LIVESTOCK POLICIES FOR 1919 AND 1920

The policies outlined will be carried out at all institutions so far as possible. Where the necessary supplies that will be needed to do this are not on hand you will requisition for same at once so that everything needed by the heads of these departments will be available for their use.

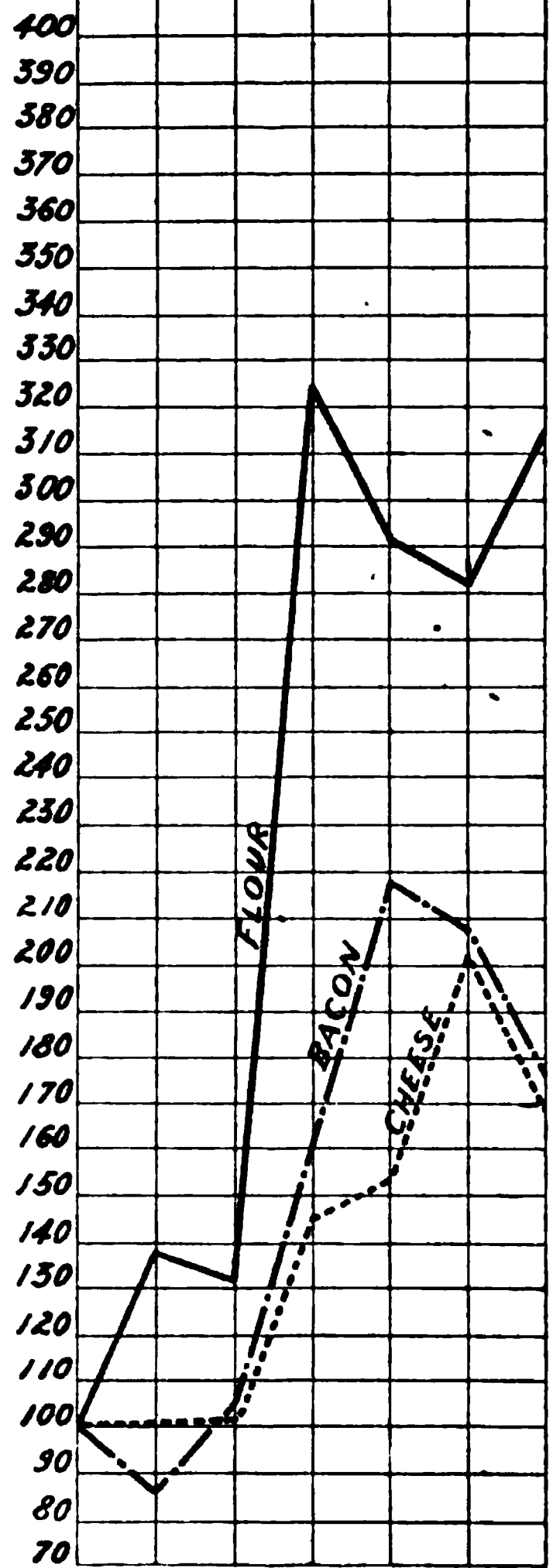
*PRICE RANGE
ON PRINCIPAL ITEMS OF FOOD
PRICES FOR JULY OF EACH YEAR*

NAVY BEANS, FRESH FISH ~ BEEF FORES

1914 1915 1916 1917 1918 1919 1920

*FLOUR, BACON ~ CHEESE*

1914 1915 1916 1917 1918 1919 1920



HORSES AND MULES

Very few of the institutions have been giving any attention to the raising of colts. Scarcely any have been raised except at Alton, Kankakee, and St. Charles. We should certainly raise enough colts to replace aged horses and this policy will be followed where it has not been done.

DAIRY STOCK

There is considerable room for improvement in the handling of the dairy cattle. The matter of good feed and plenty of it, is of prime importance. The policy of raising male calves to maturity will be discontinued as all of the available land at the institutions is needed for the production of milk and the raising of heifers to replace aged, unprofitable and tubercular cows. A few male calves from very high test cows will be saved for our own use and some sold to local farmers where they are willing to pay considerable more than these calves would bring in the form of veal. The balance of the male calves will be kept until thirty days of age and then used for food.

Individual records will be kept of the different cows and a balanced ration fed so far as it seems profitable to do so. The unprofitable cows will be eliminated as fast as possible. Heifers should be bred so that they will freshen for the first time between 27 and 30 months of age.

A good ration for cows in milk would be thirty to thirty-five pounds of silage; twelve to fifteen pounds of clover or alfalfa hay, and a grain ration consisting of three parts ground corn; three parts ground oats and one part oil or cotton seed meal fed at the rate of one pound to each three and a half pounds of milk produced. Where soy beans are raised with the corn used for silage, the grain ration can be cut down to some extent.

HOGS

Arrangements will be made at all the institutions to produce sufficient hogs to take care of all institution swill. It is important that our own hogs be raised as there is considerable danger of disease where stock hogs are purchased. Vaccination for cholera is a settled policy and will be carried out at all places.

The raising of stock of one variety is recommended as it adds to the general appearance of the livestock. Either the Duroc Jersey, Poland China or Chester White are considered the best breeds for institution use.

SHEEP

If sheep are to be kept they should be raised at the different institutions.

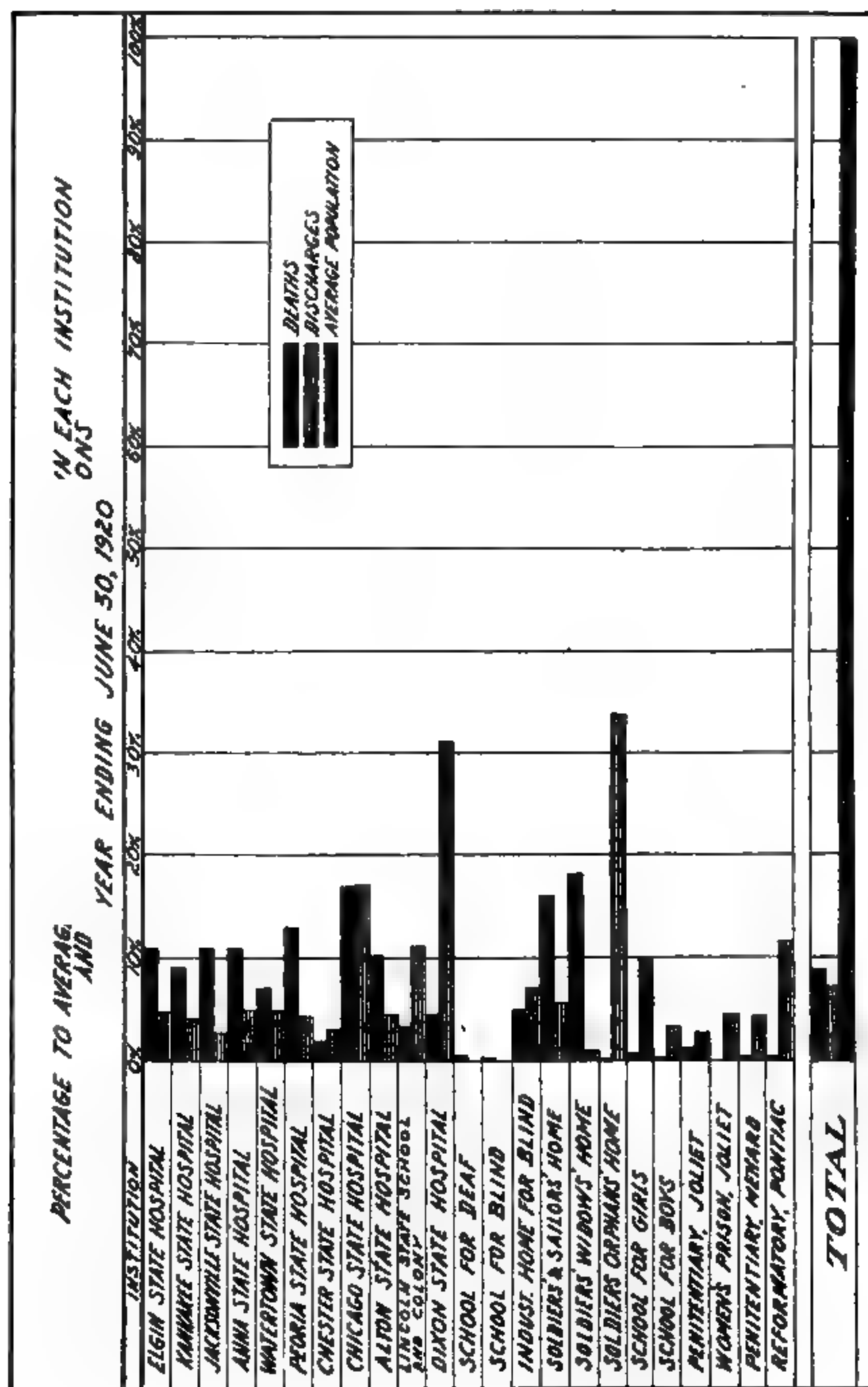
POULTRY

There is room for great improvement in the handling of our poultry. The main trouble at most places seems to be that nobody gives it their special attention. The managing officer at each institution should see that somebody looks after poultry who understands the work, and this person should be held responsible for the results obtained. It is recommended that an effort be made to raise only one breed and that this breed be developed so that it will be a fine type of the variety decided upon.

White chickens show up very nice on a farm, and chickens of this color are as good as any. The White Wyandotte or White Plymouth Rocks are fine specimens of the white breeds and should do well at the institutions. Breeding of one variety should also be followed in the production of geese and turkeys.

GARDEN CROPS

Asparagus and rhubarb beds will all be covered with stable manure and the balance of garden and potato ground so far as possible. The area



devoted to winter onions, asparagus, rhubarb and strawberries should be large enough to take care of institution needs. Where they are not of sufficient size for this purpose, they will be increased enough to the proper area this year. Garden ground should be cropped as intensely as possible so that much of the ground can be made to raise two or three crops of different vegetables. Care should be used not to plant an excessive amount of perishable vegetables and different items should be planted from time to time so that they will not all mature at once.

Mangel beets and sugar beets will be grown at all of the institutions this year for the purpose of reducing pasture acreage and the making of syrup.

The following policies will be carried out in regard to farm crops:

1. A proper rotation will be followed.
2. Clover and alfalfa will be sown with practically all small grain.
3. Soy beans and pumpkins will be planted with corn that is to be cut for silage; Hubbard squash and Kentucky wonder beans with much of the balance.
4. Some soiling crops such as cane, Sudan grass and millet will be grown for summer pasture. A good early soiling crop is oats and Canadian field peas. Rye will be sown at nearly all the institutions this fall to provide early spring pasture.
5. Potatoes will be dug as soon as mature and part of this ground followed with turnips. The balance will be planted to sweet clover and pastured during the late fall and until about May first of the next year, and then plowed under and put in corn. This will add more nitrogen to the soil than a medium covering of manure.
6. Unless you are absolutely certain that your small grain seed is free from smut, all rye, oats, barley and wheat should be treated before planting. The formula recommended for this is one pound of formalin in 45 gallons of water. Grain should be thoroughly wet with this and then allowed to dry before sowing. All sacks for holding the grain and the drill in which it is to be seeded should also be treated if they have been exposed to infection.

Potatoes to be planted this year should be soaked in a mixture of 8 ounces of formalin to 15 gallons of water before planting.

There is a surplus of seed corn available for transfer at some of the institutions. If any of the institutions are short of this item, please advise, and seed will be transferred from some other place.

ORCHARDS

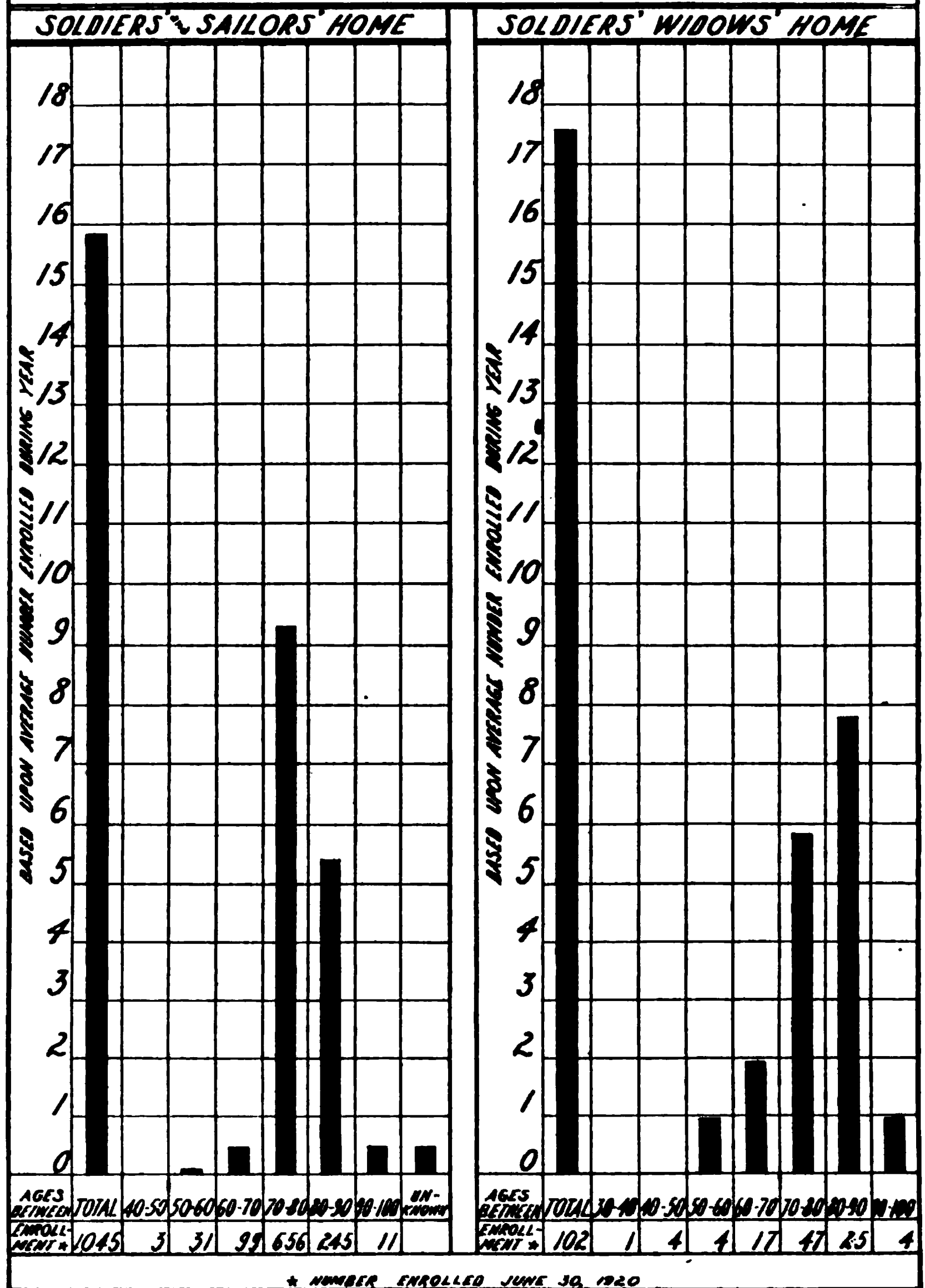
All orchards, berries and grapes should be pruned at once, if this work has not already been done. The fruit trees should also be sprayed immediately with a solution consisting of 5½ gallons of commercial lime sulphur to each 50 gallons of spray. For data on the balance of spraying that should be done it is recommended that you secure Circular Number 212 from University of Illinois. Farmers Bulletins Numbers 650 and 908, should also be secured from the Secretary of Agriculture at Washington, D. C.

After this year all institutions will be expected to start strawberries, blackberries, and gooseberries, currants and grapes by securing plants and cuttings from beds and patches already on hand unless the stock available for this purpose becomes infected with disease such as rust. In this event these plants should be destroyed, as there is no method for controlling rust.

SOIL AND FERTILITY

Effort will be made to keep up and improve the soil at all places. For this purpose you are requested to see that plenty of straw is available for bedding and that all leaves that accumulate on institution lawns be used for the same purpose. The acreage devoted to leguminous crops should also be further increased this year. Samples of the soil at all of

DEATHS
PERCENTAGE TO TOTAL ENROLLMENT
CLASSIFIED BY AGES
YEAR ENDING JUNE 30, 1920



the different institutions will be secured this year and forwarded to the University of Illinois for analysis so that we can see just what is needed at each place. The necessary supplies or materials will then be requisitioned and provided if sufficient funds are available at the different places for this purpose.

A copy of these recommendations should be placed in the hands of each person interested at every institution and a requisition for anything needed made so that they can be fully carried out.

Pleasant surroundings both in the institution buildings and on the premises are important factors in the treatment and care of the inmates and the department had made a special effort during the past year to improve these conditions at all the State institutions. A landscape designer has been employed to beautify the institution grounds. He has made landscape plans for the institutions, and decided improvements already have been made. At the Chicago State Hospital, the Dixon State Colony for Epileptics, the Peoria State Hospital and the Alton State Hospital considerable work has been done and it has been accomplished almost exclusively by patient labor. Grounds have been beautified, not alone by planting trees, shrubs and flowers, but by filling in unsightly areas, changing them to places of beauty. Diseased and infected trees have been treated or removed and new ones planted. Propagation by cutting has been carried on with quite satisfactory results. Two insane patients at one institution rooted and potted 5,000 vines for future planting. The institution lawns are being renovated and naked areas seeded. At the Dixon State Colony, grading and planting around cottages is now under way and small trees and shrubs have been procured cheaply and are now being planted in nursery rows for future use after the new buildings are completed. At Peoria, bare and desolate looking buildings have been embellished by suitable trees and shrubs; at Alton a small nursery has been started, containing shrubs and trees which will be used to beautify the lawns and at Lincoln a number of diseased and interfering trees have been removed. Plans also have been prepared for further beautifying the grounds of the State Reformatory at Pontiac. The landscape designer has devoted considerable of his time to visiting the institutions in an advisory capacity on matters pertaining not only to beautifying the institution grounds, but in an effort to increase the production of the farms and gardens.

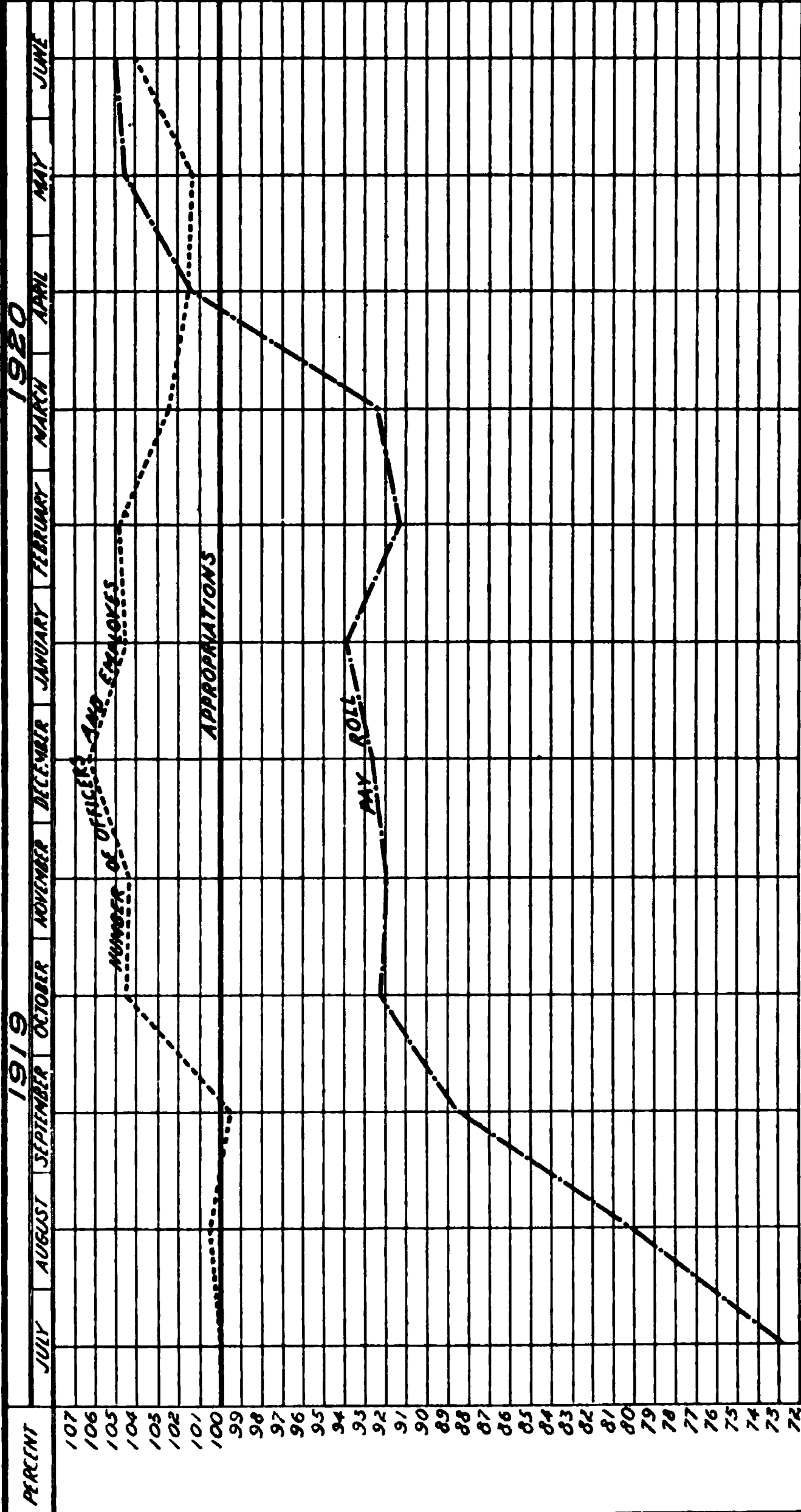
On November 1, 1920, there were 26,747 patients housed in the State institutions. Of this number 17,066 were insane, 2,029 feeble-minded, 323 at the Colony for Epileptics, 378 deaf, 291 blind, 1,689 in the soldier institutions, 99 at the Eye and Ear Infirmary, 408 at the Girls' Training School, 821 at the Boys' Training School, and 3,643 prisoners at the Joliet Penitentiary, Penitentiary at Menard and the Reformatory at Pontiac.

The insane population increased 81 from November 1, 1919, to November 1, 1920, and the number of other classes of inmates increased only 5. The total number of employees on November 1, 1920, was

PAY ROLLS - ALL DIVISIONS

AND MONTHLY EXPENDITURES FOR YEAR ENDING JUNE 30, 1920

COMPARED WITH APPROPRIATIONS



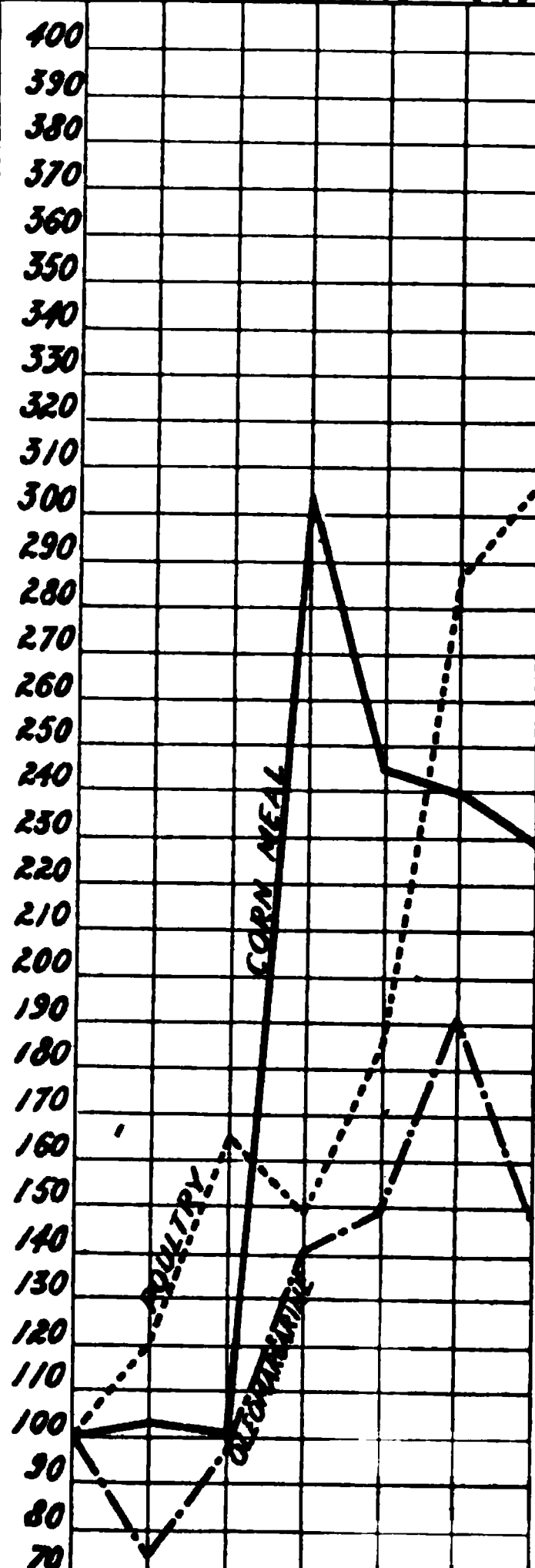
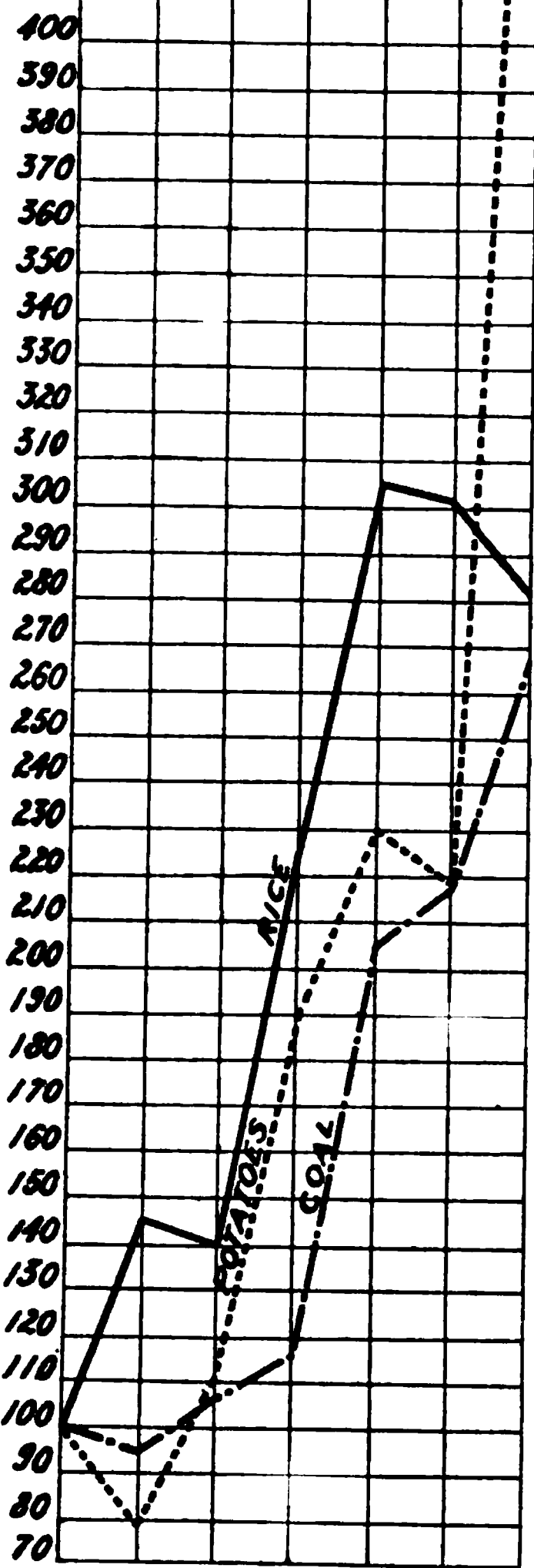
PRICE RANGE ON PRINCIPAL ITEMS OF FOOD PRICES FOR JULY OF EACH YEAR (COAL)

RICE, POTATOES & COAL

POULTRY, CORN MEAL & OLEOMARGARINE

1914 1915 1916 1917 1918 1919 1920

1914 1915 1916 1917 1918 1919 1920



4,007 and one year ago it was 3,879, showing an increase of 128. The population of insane and criminals in the Illinois State institutions during the past eight years shows some interesting figures printed in charts elsewhere in this report. From 1913 to 1917, there was a steady increase of about 700 insane patients to the year, but during 1918, and 1919, there was a decrease, 1918 showing a decrease of 156 and 1919 showing a decrease over 1918 of 264, and for 1920, the population increased 158. The highest peak in population was reached in 1917, and the decreases for 1918, 1919 and 1920 are probably due to economic conditions brought about by the war, but when times are again normal, we may expect the approximate usual increase in the number of the insane.

The penal institutions reached the peak in their population in 1917. From 1913 to 1917 there was a material increase in the number of prisoners. The industrial paroles were largely responsible for the decrease in the prison population since 1917. In 1919, the population ran as low as 3,400 and in 1920, it reached 3,695. The chart printed in this report will show how closely the population of both the insane and penal groups are related.

The constant supervision of the traveling dietitian has greatly improved the dietaries of both the inmates and employees of the State institutions, and they are now better fed than ever before. The Director of the department has insisted that the inmates be better clothed and generally there has been a decided improvement in their appearance.

In performing the duties of my office, my object at all times has been the welfare of the inmates of the State charitable and penal institutions.

In conclusion grateful acknowledgments are extended to the Director, State authorities, members of the legislature, the members of the departmental staff and heads of the institutions and divisions who have given me their hearty cooperation and loyal support in performing my official duties.

REPORT OF SUPERINTENDENT OF CHARITIES

A. L. BOWEN, *Superintendent of Charities*

The Division of Charities of the Department of Public Welfare consists of eleven State hospitals for mental and nervous diseases with a patient population of almost 20,000; four institutions dealing with blindness, deafness and diseases of the eye and ear; two institutions for soldiers and soldiers' widows and daughters; two institutions for correction of juvenile delinquents; one school and home for normal dependent children with a resident population of 360.

There is a total population in these State institutions of approximately 25,000.

The division includes also the Bureau for the Visitation of Children in foster homes, involving the visiting, inspecting and licensing of nearly 100 private orphanages with a total resident population of 15,000. It also visits and supervises 5,000 children who have been placed in foster homes by the State or juvenile courts.

The division includes the Bureau for the Instruction of Adult Blind in their homes.

The division visits, inspects and licenses all maternity hospitals or maternity wards in general hospitals and supervises adoption of children by legal proceedings.

The division is authorized to visit and inspect county almshouses and county jails.

AUTHORIZED TO CHECK UP COUNTY EXPENDITURES

It is authorized to check up and report upon local expenditures for outdoor relief, mothers' pensions, blind pensions and all other expenditures of counties or cities for the alleviation of poverty and physical distress.

The division operates in close and direct contact with all officials of the State, county or city who deal with the problems of human misfortune; it reaches further perhaps into the sacred precincts of the domestic affairs of our people than any other single agency, of the State Government and touches them upon the most delicate and sensitive subjects of life.

The division has worked for certain definite results. Some have been secured and others are in process.

Among these may be mentioned:

WHAT SHOULD A STATE HOSPITAL DO

What should a State hospital do to raise the standard of State hospitals for nervous and mental diseases so that patients in them shall receive the same quality of service that patients suffering from physical diseases receive in general hospitals supported by private funds?

The unfortunate victim of a nervous or mental disease is just as much entitled to recover as the man afflicted with a physical disease. He has the same rights to the best of medical and surgical skill, to good, clean, sanitary, comfortable and attractive housing; to wholesome and well cooked food, to recreation and employment and to reeducational facilities when they are indicated.

ALL SEMBLANCE OF POLITICS ELIMINATED

To this end all semblances of politics have been eliminated from the State charitable institutions. Superintendencies have been filled by promotion on merit of men who have made good in the lower medical ranks.

The personnel of medical staffs have been increased but conditions, created by the war, have rendered it impossible to keep the quotas filled. State hospitals should have a larger number of dentists. Specialization for the benefit of patients has been encouraged so that each institution may be able to treat skillfully the diseases of the eye, ear, nose and throat; of the skin, of the kidneys, of the heart, etc

SURGICAL SKILL HAS BEEN PROVIDED

Where surgical skill was present on a staff, opportunity and encouragement were given, but to meet all surgical needs in nearly all hospitals, a State surgeon has been appointed. During the first year he performed 250 major operations, these being in addition to scores performed by resident physicians.

In addition to the comfort and relief insured to patients by this service, has been the stimulation it has given to ambitious women seeking nursing training and experience.

At all State hospitals the infirmary cases have been separated from the acute sick and a service appropriate to each has been organized. This separation marks a real advance in the case of the infirm, the aged and the acute sick in these institutions.

HYDROTHERAPY DEVELOPED AS AN AID TO TREATMENT

Hydrotherapy has been greatly developed, some hospitals maintaining their "hydro" wards twenty-four hours a day. During the period of acute shortage of help the continuous "hydro" wards demonstrated their value. In lessening violence and restlessness, in reducing the number of accidents and injuries, in improving a patient's general physical and mental condition and in solving many hospital problems, hydrotherapy is entitled to the very highest rank in institutional service.

OCCUPATIONAL THERAPY TAKES AN IMPORTANT PLACE

Occupational therapy or reeducational methods are developing on a broad, comprehensive foundation looking forward many years to the time when these institutions shall be simple, isolated communities, where life shall be free from the competition and irritations of civil existence, yet industrious, profitable and worth living to those who must be separated from normal environment.

Occupational therapy on the scale that Illinois has adopted must develop slowly. Personnel is scarce. Schools for training workers do not exist. Civil hospitals, profiting by the lessons of the army, are installing it for all types of sick and convalescents, creating thereby a demand for technicians of whom there is a very small supply. Illinois State hospitals gave the practical training to 250 young women who later served in France and they must, it appears now, train workers who are to "carry on" in the hospitals themselves.

In the short time it has been in operation, it has become indispensable aid in the care and treatment of mental patients. What Illinois has been doing along this line has attracted the attention of all progressive states, which are now adopting its system.

WHAT CHANGES MAY BE WORKED IN PATIENTS

One has only to witness the transformation that can be worked in the state of an old chronic patient, who has vegetated in idleness for years on a back ward, until he has become filthy in his habits, oblivious to his surroundings, or perhaps very restless and destructive, picking at his skin, tearing up his clothing and annoying others by his irritating conduct. To see such a patient gradually and slowly wake up, first in a habit training class, then in the kindergarten, then in the "C" class and to watch his progress upward through months of tedious and painstaking effort on the part of the therapist, until he emerges clean in his habits, and quiet in his conduct, into an industry from which he gains some pleasure and the institution some profit—to see all this multiplied by the score, is enough in itself to convince the most doubtful of the efficacy of occupational therapy. But when it is realized that the methods which thus raise up the lost may prevent the decline and fall of the newly arrived patient, one begins to sense another value of occupational therapy. Our experience leads up to the conclusion that the untidy and demented wards, as they are so well known under these terms in all State hospitals, are not necessary evils; on the contrary may very easily be prevented.

STATE HOSPITAL SHOULD BE A COMMUNITY

What occupational therapy has already done, even under its limited operation, brings us close to a realization that a State hospital should not be an institution but a simple community in which each takes a useful part for the benefit of all.

The time is approaching when the insane, so called, will live apart, in communities not much different in appearance from the civil community, and composed of the same sort of units. Such a community will differ from civil life in that it will be organized without the competition that characterizes the struggle among free men. Life and daily routine in this community will not be faster than the capacity of its citizens to keep the pace.

It is to this ideal that the Illinois Division of Charities has been working.

Under other headings the report deals with other phases of the community idea.

Independent of what our State hospitals have been attempting along this line for their civil patients, the United States Vocational Board has organized classes for ex-service men who have been committed. To make this work effective, service men in Chicago, Kankakee and Elgin State Hospitals have been assembled at Elgin State Hospital and those in other State hospitals have been assembled at Jacksonville State Hospital. There has been the very best of cooperation in this work among the agencies interested. The State hospitals undoubtedly are going to get some very valuable ideas from the operations of the special classes.

In conclusion on this important subject it must be emphasized that none of its strongest advocates look upon occupational therapy as a cure for mental and nervous diseases and it must not be so considered by either the professional or lay student of psychiatry.

SOCIAL SERVICE LIKEWISE PROVES ITS VALUE

For the convalescent, for the patient who needs a supporting hand, for the homeless and helpless, for the patient who has lived inside but might get along outside under some supervision, social service has come to be an essential in a modern State hospital. The introduction of this service into State hospitals must be credited to the success it has had in general hospitals where the need for it can not by any calculation be considered as great as it is among the mental patients of a State hospital.

So social service organizations, also lacking personnel for the same reason that has been assigned in the paragraph on occupational therapy, are developing in Illinois State hospitals. Only those who are in daily contact with the work these women are doing and can see the results can appreciate what it all means in human happiness. Already there are several hundred patients on parole and sustaining themselves outside, who, but for social service, would still be living empty lives on the back wards of our State hospitals. The cost of social service, so far as it has been developed, has been more than repaid by the increase in the number of patients paroled or discharged. From an economic standpoint, therefore, the service justifies itself, but this should be the last

consideration. The reuniting of families, the restoration of a father or mother, the return to financial independence, all of which have been noted so often, would convert any skeptic.

AN INFINITE VARIETY OF DUTIES FOR THE WORKER

The amount of work for the social service workers to do is tremendous. The variety of ways in which they may be useful to the patient in recovering his poise and his place in the world are literally infinite. What has been done in Illinois State hospitals is only a drop in the bucket of possibilities. So far only four State hospitals have been able to secure workers.

In addition to the work in the State hospitals have been the results accomplished by the social service workers in the State School for the Blind and the State School for the Deaf. Money can not match the splendid achievements of the two workers among these children who need such care and attention as the social worker can give and who profit so markedly from it.

Illinois institutions have been very fortunate so far in securing a very excellent type of women for this task; they are practical, tactful and unselfish and are driving for the practical results which are manifest in the improvement of the patient himself.

One outgrowth of social service organization has been the out-patient clinic and dispensary. Every well regulated large general hospital now has its out-patient clinic and its dispensary. There are even greater reasons why a State hospital for mental diseases should extend its facilities out into the community. Such a hospital serves a large territory. Clinics and dispensaries are required, therefore, in all the centers of population in the district.

Chicago State Hospital has succeeded in establishing two out-patient dispensaries in Chicago. Jacksonville State Hospital has one in Jacksonville, Springfield, Decatur and Quincy. Other State hospitals are only waiting for personnel to begin.

OUT PATIENTS CLINICS AND DISPENSARIES

These clinics are conducted by a member of the medical staff of the institution and a social worker. All patients on parole in the community report for examination and advice, thereby saving them a trip to the hospital itself. Often help is given them to overcome some difficulty with which they are struggling.

The clinic will see any person who is suffering from nervousness or who feels himself in need of attention on account of mental symptoms which he is able to recognize. Scores of such men and women visit these dispensaries every month. They are serving an excellent purpose in furnishing parents advice on children who exhibit mental abnormalities.

WHAT SUPERINTENDENTS THINK OF IT

What the superintendents of the various State hospitals think of social service is indicated in the following brief lines. Doctor Hinton of the Elgin State Hospital writes: "I know of no agency that has accomplished so much good as has the social service department of our hospital." Doctor E. L. Hill, superintendent of the Jacksonville State Hospital reports the following increases in the number of patients on parole from October, 1919, to October, 1920: February, 30; March, 32; April, 37; May, 47; June, 52; July, 62; August, 69; September, 72. "During the year 42 paroles were made which were due entirely to the social service investigation," he says.

After three months' experience with his own social service worker, Doctor C. H. Anderson of the Anna State Hospital writes: "Several patients have already been paroled who would not have been paroled but for the social service worker, and other patients have been enabled to remain out who would otherwise have had to return to the institution."

Doctor Charles F. Read reports that, during the last year of the biennium, the social service organization in the Chicago State Hospital has made 2,422 visits, has interviewed 395 patients, found homes for 43 patients, employment for 51, legal aid for 24, medical aid for 40 and dealt with 1,079 individual patients. During November, 1920, this hospital was carrying on parole in the city of Chicago, 309 patients and keeping in touch with them. This figure is double the number of patients who were on parole before social service was organized.

PREVENTION HAS NOT BEEN OVERLOOKED

In the developing of State hospitals to a point where they can give their patients service comparable with that given the physically sick in general hospitals, attention has been directed towards research and study of methods of prevention, one of the hopes of present-day medical education and treatment. Quite apart from the group hospitals for education and research, which the Director of this department has described in his report, has been the introduction into the various State hospital units of modern laboratory facilities such as X-ray equipment. All State hospitals but two are now fully equipped with X-ray apparatus. All State hospitals are either possessed of full surgical outfit and proper surgical operating rooms or are getting into shape to care for all surgery which may be offered.

A MODEL TYPE OF HOSPITAL BUILDING

For the physically sick who are present always in every State hospital, plans have been drawn for hospital buildings which are not equaled by any State hospital service in the country. Not only were the plans prepared by celebrated hospital architects, but every detail has been studied and criticised by eminent men in surgery, medicine and psychiatry. These buildings provide for only the acute sick. They will

be small, accommodating from seventy-five to one hundred, according to the total population of the institutions.

Three of them are to be erected at once. One at the Elgin State Hospital is under way. One at the Alton State Hospital and one at the Dixon State Hospital are included in the construction program of 1921.

That the housing of mental patients may approximate that afforded to the physically sick, the department has adopted the one story ward building. Nothing else is being erected in Illinois. They are without basements. Their windows and doors are without bars and screens.

THE ADVANTAGES OF ONE STORY BUILDINGS

Abundance of recreational space is provided. There will be sufficient toilet and bathing facilities.

They are to be well furnished and made as attractive and homelike as possible. There is no need here of going into the arguments in favor of the one story building. Its advantages are obvious and there are no disadvantages.

Playgrounds, recreational centers and gymnasiums are supplied in the plans for the immediate future. Considerable start has been made along this line already, but much remains to be done.

The day when the old fashioned institution dance was the only relief towards which patients might look from week to week has passed; there are many other recreational and pleasure-giving diversions that are adaptable to State hospital life and patients are entitled to them. In short the same privileges along this line which the up-to-date free community enjoys should be furnished the people living in this isolated community.

TWO STATE HOSPITALS HAVE BEEN OPENED

During the four years covered by this report, this division has opened, organized and filled to capacity two new State hospitals, the Alton State Hospital and the Dixon State Hospital. One accommodates 700 patients and the other about 350.

Both of these institutions were erected under a preceding administration but had not been occupied when the present regime came into office. Much work had to be done to get the buildings into condition because sewer, light, water and other connections had not been fully completed and furnishings had not been installed.

But to preserve the structures it was necessary to open and occupy them. It was a very difficult time to do so because both employees and supplies were so scarce. A task that seemed impossible was, however, accomplished very successfully.

THE PROBLEM OF THE ALTON STATE HOSPITAL

The Alton State Hospital has been laid out to accommodate at least 4,000 and probably 5,000 patients and a law has been passed specifying

these figures as its capacity. But the designers have reckoned without their patients. As is well known there is a general demand that patients be located in institutions not far removed from their families and relatives. Many years ago this State bowed to this sentiment, when it created districts and provided each with a State hospital. It is not possible to transfer patients at will from one hospital to another or from one section of the State to another.

The three hospitals which are suffering from overcrowding are those at Kankakee, Chicago and Elgin. The conditions in them are almost intolerable. There is an unanimous demand on the part of residents of Cook County to have their patients committed to Chicago State Hospital. They object to sending them to Kankakee or Elgin, though these institutions are not far distant. Yet Chicago State Hospital will not accommodate the Cook County quota. While it may be possible to send them as far as Elgin or Kankakee it would involve serious complications to attempt to send them so far as Peoria, Jacksonville or Alton.

THREE POSSIBLE SOLUTIONS OFFERED

With all other down-State hospitals fairly comfortable in this respect, there is no reason to transfer patients from them to Alton. Jacksonville and Anna State Hospitals serve the same territory that Alton must draw from. It is a rural district with the exception of St. Clair County. If it were not for the friendless patients who have been sent to Alton from northern hospitals, it would be almost without population. The sum total of friendless patients have been transferred.

There are several solutions for the problem thus presented.

The Alton State Hospital may continue in its present course, accepting patients from the immediate neighborhood and acquiring from time to time friendless patients from the northern part of the State, growing thereby very slowly.

Or the Jacksonville State Hospital may be abandoned by slow process and the function it now performs transferred to Alton. It may readily be understood that this proposal will not be popular. The Jacksonville State Hospital was the first to be erected in Illinois. It is a Dorothea Dix institution. Sentiment of state-wide proportions and the interests of the city of Jacksonville will naturally oppose this plan. Yet it must not be overlooked that the city has grown up on two sides of it, that farm land is almost impossible to acquire for its growing agricultural pursuits, that its buildings, while well built, are out of date and out of tune with modern thought and ideas.

The third and most feasible plan is to convert the Alton institution into a colony for feeble-minded to serve all the State south of Springfield. Its capacity could soon be filled.

RELIEF FOR NORTHERN ILLINOIS IMPERATIVE

There are no serious obstacles to be overcome in changing the Alton institution from mental disease to mental defect. There is a need for such an institution in this section of Illinois. At present it is served by the Lincoln State School and Colony, which is overcrowded and far distant, especially from the territory south of East St. Louis.

Whether the Alton State Hospital remains as it is or not, there is no escaping the situation in northern Illinois, where relief must be provided at once.

The Chicago State Hospital has a small acreage. The city is growing up about it on three sides. More land cannot be acquired. No effort should be made to enlarge it. On the contrary, its capacity should be reduced by the removal of two old buildings which are dangerous.

Either a new institution should be planned, west or northwest of Chicago, near the Cook County line, or Elgin and Kankakee should be enlarged by the establishment of colonies, after the manner adopted at the Utica State Hospital in New York and several other state hospitals in other eastern states.

The advantages of this plan are that much of the overhead expense may be saved, both on the initial cost and in yearly upkeep and operation.

THE PROBLEM AT DIXON HAS BEEN SOLVED

The problems at Dixon were solved by the General Assembly of 1919. This institution was created as a hospital for epileptics and the service plant was laid out for a future growth to 5,000 patients. But experience soon taught the department that it would be years before any such number of epileptics would seek admission.

The legislature was therefore petitioned to enlarge the institution as a colony for feeble-minded and to locate a new and small colony for epileptics on the same land but distant and separated from the colony for feeble-minded.

This was done and enlargements are in progress which will give the feeble-minded colony a capacity of 1,000 or 1,100 and the epileptic colony beds for almost 200 patients.

Illinois therefore has a second colony for feeble-minded. It will serve Cook County and the northern section of the State. It can be expanded to 5,000 beds and the legislature of 1921 will be asked to make appropriations for 1,000 more beds.

TIME AND ATTENTION GIVEN TO THE BLIND

A very great amount of time has been devoted to the question of the blind. The Industrial Home for the Blind in Chicago has been a problem for many years. It has been the ideal to place adult blind on a self-sustaining basis. Elaboration of the reasons for this is not necessary. The preliminary steps have been taken. Cooperation has been estab-

lished with private organizations in Chicago, dealing with the blind and an improvement in this situation seems to be insured.

In connection with the work among the blind have been the clinics, established in southern Illinois centers for the treatment of trachoma. This disease has invaded that section of Illinois from Kentucky and Tennessee where its ravages became so great that the Federal Government had to take charge of its suppression.

There was very little money available for these clinics which were opened in southern Illinois and experience with them has been short. They have been operated through cooperation among the Departments of Public Health and Public Welfare, the Charitable Eye and Ear Infirmary, the University of Illinois Medical School and the State Society for the Prevention of Blindness. What has been done, however, demonstrates beyond a shadow of doubt its value in dollars and cents. It has more than repaid the money expended on it and provision should be made for its continuance on a larger scale.

The State School for the Blind has been placed upon a very high plane. No child is now permitted to leave the institution without provision being made for employment if employment is necessary to support.

The school has a social worker, one of whose duties it is to find work and keep in touch with the pupil until he has become established. State institutions have taken several of the blind graduates and are using them in responsible places. A musician, for instance, took charge of the patients' music at the State Hospital in Jacksonville, organized a band and orchestra and has made himself indispensable.

Large employers in many lines have cooperated in the employment of these boys and girls. The course of study has been revised and much more attention is given to vocational and manual work with a very marked improvement in the interest and efficiency of the blind pupils.

IMPROVEMENTS IN THE PHYSICAL PLANTS

The physical plant has been radically improved and the next legislature is being requested to appropriate money for a building which will enable the school to remove the last of the children sleeping on high floors.

The same ideals have been applied to the education of the deaf, with equally good success. There is a social worker in this school who looks after the children's welfare and social affairs and assists in adjusting them after they leave. More attention here is also given to manual and vocational work. The physical plant has been improved and made safe by new wiring. At both the blind and deaf schools recreation and play teachers have been regularly employed.

TRUANCY LAW FOR BLIND AND DEAF

It has been the design to bring both these schools up to the standard set by the conceded-to-be-best schools for these classes in the United States and to turn back into society boys and girls equipped to make their way in life in competition with their normal fellows. This is much to expect in the cases of such decided defects as blindness and deafness, but it is not too high a purpose to aim at.

The State truancy law for the blind and deaf is now in full operation and from the highways and byways of the State are coming children who were growing up without hope of education and training. No more wholesome legislation has been enacted in recent years in Illinois than this truancy law for these children.

THE WORK AMONG DEPENDENT CHILDREN

The work among the dependent children has shown an improvement.

Here the ideal has been to give every advantage to these homeless ones that the community provides for its more fortunate children and to make for them a home environment such as every child is entitled to. The latter is very difficult in an institution. To provide it in foster homes requires skillful, alert supervision to protect the child from exploitation and to secure for him all that is his due.

The Soldiers' Orphans' Home, located at Normal, is a State school and home for orphaned children. It accepts orphans and half orphans of soldiers, under the terms of the law, but there are few of them. Almost 90 per cent of the children have been sent there by the courts as dependents with authority for the institution to place them in foster homes. Children are received under no other conditions.

It has been the policy to find foster homes for these children. This work has been most successfully prosecuted, though under the handicap of having only one worker to find the homes, investigate them and place the children in them. During the last two years homes have been found for nearly 200 such children.

These are followed up by social workers from the Bureau of Visitation.

THE NORMAL HOME CARRIES SMALL ROLE

The institution itself carries a much smaller role than formerly. At one time it contained 515 names. The average now runs about 350. The physical plant, which was in a miserable condition, has been repaired and brightened until it is attractive and comfortable. Contract has been let for a new school house. The hospital facilities are to be enlarged and improved. There is money with which to erect a new cottage and it is proposed to make it a home for the older girls who are about to leave. Here they will live as they may expect to live on the outside. They will learn the practical working of a home. It will accommodate about sixteen.

The next legislature will be asked to furnish a new power plant which will absorb the greater part of the allowance for permanent improvements. The school facilities have been improved to a marked degree by the addition of teachers, the opening of arts and crafts instruction for girls, manual training for the boys, recreation, play and physical culture for both sexes. So great is our faith in foster homes and so great is the demand for children by such homes and so successful does this placement appear to be, not only from the standpoint of the child but from that of the personal happiness of the home, we believe the facilities of orphanages should not be enlarged, but that effort and energy should be directed towards child placing and supervision.

There will always be a certain residuum for such an institution as that at Normal to care for. All children are not placeable and they must get their start in life in the artificial light and air of the orphanage.

THE PURPOSES OF AN ORPHANAGE

There must also be some sort of clearing house where the undernourished, underweight, sickly or perhaps crippled or retarded waif may be built up and brought out. Marvelous results are being attained today in this sort of work and the Normal institution can be utilized for this purpose but it should be operated on such a high plane and should do its work so effectively and efficiently that it could be pointed to as a model and its children could look back upon it with blessings.

VISITATION IN ORPHANAGES AND FOSTER HOMES

The visitation of children placed in family homes by approved and licensed orphanages and the inspection of these orphanages themselves, have been given close attention for the purpose of raising the standard of this work. There has been a shortage of workers but the number available has been greater than it was prior to two years ago. This bureau is entitled to eight visitors instead of four. A portion of the time that number has been available. The next legislature is petitioned to add two more making ten in all.

The State has attempted to inculcate in private agencies the same ideals which it has tried to establish in its own institutions. The investigation of homes, prior to placement of children, the bringing together of the child and the home, fitted for each other, and the after care of the child in his new home are delicate tasks, requiring experience, training and God-given personality.

There is no work in which the State engages so important as this, because these children are all potential citizens. They are without defect. Their misfortune is that they have been orphaned.

To bring them up in the artificial life of the institution and foster homes to manhood and womanhood, equipped to meet life's responsibilities, is one of the most difficult achievements the State has undertaken.

THE INSTITUTIONS FOR WAYWARD CHILDREN

Very much the same objects have been sought at the two schools for wayward children. Their problems are very much different in some respects than those at Normal. They include not only education and training but the correction of bad habits and the incipience of bad conduct. The mental complications are severe in many cases.

Progress has been made at St. Charles and Geneva in psychological and psychiatric study among the boys and girls. There has been improvement in the physical property. St. Charles School for Boys has added two hundred acres to its 100 acre farm and is asking for still more. Efforts have been made to improve the academic departments of both institutions. There are many things lacking in both places and it will require several years to supply all of them. St. Charles is severely crowded. Crowding in such an institution only helps to defeat its purpose.

PRONOUNCED DEFECTS IN THESE SCHOOLS

One of the pronounced defects in the operations of these institutions is the small force of parole officers or home visitors. Neither the school for girls nor the school for boys is doing much more than scratching the surface of this very important subject. The schools train and educate and correct during a period of a year or sixteen months or even longer and then send their boys and girls out either into their former environment or into new ones. Those who go back to their homes are sent there on the recommendation of local agencies, such as the County Court, the probation officer or other reliable authority. The follow-up of such children is generally left to the local community and the school loses track of such wards.

The boy or girl who is sent into a new environment or is paroled out to employment is looked after much better. Both schools have enough officers or workers to give these parolees supervision, but they are the small per cent of the annual releases. Those who go back to their homes should be followed up and supervised with the same regularity and diligence that is exercised over those sent into employment or into foster homes.

An increase in the number of visitors to meet this situation is the only solution.

THE HOMES FOR SOLDIERS AND THEIR WIDOWS

The homes for soldiers and widows and daughters of soldiers have not been neglected. They have been placed in first class condition so far as repairs have been concerned. They are homes for aged people and have their special problems. Sickness, both physical and mental, is now making sad ravages among the veterans of the Civil War. With advancing years and the high cost of living, many have been forced into the State home who otherwise would have remained out.

It is a compliment to Illinois' care and treatment of these men and women that its homes at Quincy and Wilmington are always full and there is a waiting list at each. Petitions and pleas come from other states for admission to the Quincy home. Several National homes have been closed and others are only partly filled but the Quincy institution maintains its population because it furnishes home surroundings; wives are admitted with their husbands and live together; there is no subtraction of pension money for the benefits of the State and an almost complete absence of rules and regulations.

WORK BEGINS ON NEW INSTITUTIONS

The land has been purchased and the erection of a new building has been begun for the Illinois Charitable Eye and Ear Infirmary. Similar action has been taken towards the Surgical Institute for Crippled Children and for the State Psychiatric Hospital. All three of these institutions will be units in the State Hospital for Education and Re-reach, located in Chicago, the professional work being under the direction of the College of Medicine of the University of Illinois and the administration by the Department of Public Welfare.

MUCH REBUILDING TO BETTER HOUSING

An immense amount of rebuilding, has been accomplished during the last two years, all with a view to improving the housing of inmates.

Old buildings have been remodeled and the plans which were good in the years gone by, have been radically changed by the removal of partitions and the elimination of single rooms. All of this work has been done by institution employees and patients.

The work of getting patients out of basement dining rooms has continued and it is hoped that in another two years there will be no such thing in this State.

THE HANDICAPS OF THE WAR PERIOD

A report of this division for this period would be incomplete without mention of some of the handicaps under which it has operated.

The shortage of help, the freight congestion, the prohibitive costs of new construction and the difficulty in getting ordinary supplies and foods at any price all have been well known factors in any large organization.

The greater difficulty was involved in the help situation. The effects of the declaration of war early in 1917 were felt by charitable institutions immediately and they became rapidly more acute until the slowing up of industry in the fall of 1920 released men and women who sought work in them.

The Department of Public Welfare encouraged its young men to enlist and made every possible provision to preserve their rights as employees of the State during the time spent in the military service.

PHYSICIANS AND NURSES WERE VALUABLE

The State hospitals possessed many physicians and nurses who were especially trained to fit into units organized to care for soldiers afflicted by nervous and mental disease. Nearly fifty medical men went into the military neuro-psychiatric service from the Illinois State hospitals. The superintendents and assistant superintendents all wanted to go and plead for the right. Governor Lowden made a direct appeal to them to remain, stating it as his opinion that the maintenance of the open door of these institutions was one of the vital functions of government during the war crisis. The department was certain that a superintendent and assistant superintendent who understood the management of such an institution could keep it going so that all the rest of the experienced medical and nursing staff might be relieved. Test of experience proved this theory correct.

GENERAL PRACTITIONERS CALLED IN

Governor Lowden likewise appealed to general practitioners of the State who were beyond the draft age or could not for other reasons enter active military service to give some time to the State institutions. A number responded. Among them were old men who had retired. One or two were men of large means. They came into the service without experience, and after some years of retirement from active practice.

It was never possible to fill any institution's quota, but these recruits made good and are deserving of the best words at our command.

How serious the situation became may be illustrated by the fact that the Chicago State Hospital operated for more than two years with one hundred less employees than the number regarded, during pre-war days, as the minimum.

In another State hospital twenty-five of the forty wards were without night attendants.

Probably 30 per cent of the wards in the State were without continuous attendant service.

And then something happened.

SOME EXCELLENT LESSONS ARE LEARNED

Several in the State service had been urging the placing of more confidence in the patients of the State hospitals and the inmates of other institutions. They believed that such patients and inmates could be depended upon for larger service in the administration of the institutions. The war presented not only the opportunity but also the necessity to test out their faith. These patients did rise to the emergency and, strange to say but nevertheless true, the State hospitals passed through the crisis and emerged in most excellent condition. The State Architect reports that their physical plants are in better repair than they were four years ago. More patients are employed. There is greater

liberty for all patients and general morale everywhere shows an improvement over pre-war days.

Several thousand acres were added to the tillable lands of these institutions, because it was discovered that patients and inmates could be trained to cultivate them. The painting and plaster repair fell largely to inmates and patients and they did it well. The domestic upkeep of wards and departments was assigned to inmates and patients and they more than met expectations, in some cases, the results being considered better than those obtained under the old system of close ward supervision.

The Kankakee State Hospital, for instance, has some eight or nine cottages in which there are no attendants at any time. These cottages are kept in immaculate condition by patients organized for that purpose while one supervisor exercises general oversight of them.

Patients were found to be practical in the shops from which they had always been barred. Hospitals began to realize that even new construction was possible through their own resources.

HELPED TO BUILD MANY BUILDINGS

The department saw that it would be impossible to erect the million dollars worth of new buildings at Alton and Dixon State Hospitals unless the institutions themselves could prepare the material and perform a large part of the task. The consequence was that patients, under the supervision of attendants and charge attendants, were organized to operate concrete block shops. Other groups were assigned to unloading material from cars and delivering it to building sites. Another group operated a rock crusher, another built roads and another excavated sand and gravel from the pit. In less than a year the Dixon shops had turned out 140,000 large concrete blocks to serve as the core of the walls of buildings, had unloaded and delivered to building sites all the brick required in their construction, had crushed 6,000 yards of rock and excavated 5,000 yards of sand and gravel.

At Alton, the shop turned out 100,000 blocks and unloaded and delivered all the brick, stone and gravel. Each institution in addition operated a 1,000 acre farm and garden.

The Elgin State Hospital built a modern root cellar, made the blocks, extracted and washed the sand and gravel, delivered the brick and excavated the foundations for a \$200,000 hospital building.

Jacksonville State Hospital erected a large fire-proof industrial and occupational center getting for the \$18,000 available twice as much floor space as would have been possible under private contract. Only one civilian was employed upon this structure. Other building projects are under way at that place.

St. Charles School for Boys made additions to buildings and assisted in building a new smoke stack at the power plant.

With \$30,000 the Kankakee State Hospital completely remodeled the interiors of twelve cottages, transforming them from the old style

building with many single rooms, small corridors, unlighted basements and areas in the living quarters, into beautiful well lighted and well ventilated dormitories and day rooms and gaining thereby approximately 400 beds.

An appropriation of \$60,000 is asked for the coming two years so that all other cottages may be treated in the same manner.

PATIENTS SAVE FARMERS' CROPS

Patients were organized to go into the fields of neighboring farmers to shock oats and wheat, to put up hay, dig potatoes and husk corn. Thousands of acres of grain and produce were thus saved which, but for these men, would have gone to waste. The institution took its pay in produce at the prevailing market prices and several of them became self sustaining in foods for stock, cattle and dairies, for the first time in their history.

Alton State Hospital raised enough wheat to supply it with flour during all these four years.

Here again were shown the possibilities of the community as the proper form for the physical housing of the insane and it demonstrated its practicability by economic results. Through all the crisis imposed upon our institutions by war conditions there was never a suggestion or hint from any source that they should return to the old systems of restraint and locked seclusion.

NO HINT OF RETURN TO RESTRAINT AND SECLUSION

With a great shortage of help, it would not have been surprising if someone had suggested that mechanical restraint would solve some of the difficulties of ward management. It was one of the encouraging signs of the times that no such suggestion was offered. In fact, the Illinois State hospitals are so well satisfied with non-restraint and non-seclusion that the other methods have been forgotten. Employment of patients, no matter how simple that employment may be, sufficient recreation and pleasure, hydrotherapy, the exercise of kindly and human attributes on the part of those in the responsible positions are the rational substitutes for straps and bars and other barbarous devices.

It is undoubtedly true that Illinois is still the only State in the Union which absolutely prohibits mechanical restraint and locked seclusion in its State hospitals for nervous and mental diseases.

VALUE OF EDUCATION AND TRAINING REALIZED

Another feature of the war crisis is worthy of comment here.

The situation which the shortage of help imposed upon the administrative authorities and the manner in which it was met brought out in bold relief the value of education, training and experience. The worth of preliminary schooling and special training for special tasks became evident hundreds of times during this period. Our State hospitals, as

has been stated, furnished the field for the practical training of young women who were to go abroad as occupational therapists. These young women were for the most part college graduates. It was apparent at once that they possessed some quality which gained for them the respect and confidence of patients who reacted to their influence in a most satisfactory manner. They took hold of their task with ease and skill. The trained occupational therapist with college background was another who made progress in dealing with patients. The better educated and better trained people in every department of the institution were seen to be worth far more in every respect than the man or woman who came into the work without the advantage of schooling and experience.

UNITED STATES IS FURNISHING ADDITIONAL EVIDENCE

The Federal Government is furnishing further evidence on this point by the success which its vocational workers are having in Illinois State hospitals, reeducating the mentally sick ex-service men. The teachers sent for this purpose are all college graduates and have had experience as teachers.

In the community, as visualized, the care and direction of operations will be, in fact, must be, in the hands of men and women who have a background of education and training. The attendant under present organization forms the greater part of the employed class. He will be succeeded by the man or woman who has been to school and knows how to direct and lead others.

One of the class indicated is worth two or even three of the class which present day methods introduce upon institution wards without educational preparation or training of any sort.

THE STATE MUST PROVIDE MEANS OF TRAINING

It is evident that the training of people for the special duties in State charitable, and I might add, penal institutions as well, must be undertaken in these institutions.

A start has been made along this line.

To be eligible to registration as a nurse one must have had at least one year of high school. Of the young women who enter the State hospital service few have had this advantage. In other respects they are admirably qualified for the nursing profession.

Heretofore the training schools in the State hospitals have not been accredited except in one or two instances. Young women completing their course were entitled to certain advancement in the State service but the two years of training were not credited to them when they decided to qualify for registration. These difficulties have been removed. The State Department of Registration and Education has cooperated with the State Department of Public Welfare and a plan has been worked out whereby the State hospital training schools become accredited to the extent that any graduate will be given full credit for all the work she

has done in any of these schools when she decides to complete her training for the degree of R. N.

HIGH SCHOOLS ARE EXTENDING THEIR AID

To enable young women to take advantage of this opportunity, the assistance of the public schools of the community near the institution is being sought. The cooperation of these communities is being extended and young women who have finished grade school are being given the chance to acquire the first year of high school. Hours of duty can be arranged in any State hospital to permit pupils to do what studying is necessary and the night class or some other plan at the high school affords the time for class room recitation.

The advantages of the State hospital training school course under this plan should result in large numbers enrolling, because the State will pay an attendant's salary to such pupils which is very much higher than that paid in general hospitals to pupil nurses.

Occupational therapists and social service workers, foremen and other ranks of the directing and leading classes in this isolated community, which have been described in other parts of this report, must all receive their whole training or a material part of it in courses organized for that purpose in the institutions themselves.

THE SITUATION AS TO SALARIES AND WAGES

The time has passed when the green hand, without experience, education or special training of any kind, can be expected to furnish the backbone of the service in a State hospital for the insane, the State school for delinquents, the State orphanage for dependents or any other State institution for the care and treatment of the recognized wards of a State.

Along with the elevation of the standard of employee must go increases in privileges and salaries. The State of Illinois has done remarkably well in this matter in its charitable institutions. During these four years, the salaries of the attendant and domestic classes have been increased 80 per cent in money, while the State has absorbed all the increase in the cost of living, because these ranks are entitled to full maintenance.

Medical men for whose families full maintenance is also provided, have received some advance but it has not been sufficient to attract them and to hold them. Mechanical forces who do not receive maintenance, have been advanced as wages for the same class of service have advanced in the community in which the institution is located.

The eight-hour day for all classes of employees in the State charities has been continued and no valid reason has been advanced why it should be modified. Illinois stands conspicuous as the first state to adopt the short day for employees of its State charities, and it is still one of the very few states which have made this concession to right and justice, both of the employee and the patient or inmate.

TO PROVIDE COTTAGES FOR PHYSICIANS

In the building line only one departure from the beaten path will be found in the budget. Items have been inserted for the erection of cottages to house physicians and their families at all the State hospitals. Three cottages have been allotted to each. These will not be sufficient but they will mark the beginning of a long desired improvement in State hospital administration.

At the present time physicians and their families are crowded into narrow and old fashioned quarters in the administration building. Their children are growing up in an environment that is not fitted to them and which is not fair or just to them.

In fact it is frequently necessary to turn away a physician because his family cannot be accommodated in decency in the quarters available.

The department is asking for a small sum to build a modest bungalow with modern conveniences where the physician and his family may live in privacy and enjoy life as one in his profession should.

There is to be no extravagance or luxury provided. The institution is to erect the houses with its own labor with the aid of patients. The hospital will furnish heat and light and furnishings. All else is to be provided by the occupant.

GOOD HOUSING IS ESSENTIAL

Every large institution is now provided with a home for employees, but not every one can accommodate all of its employees who are entitled to housing. There are some classes of employees, now provided with maintenance whose presence continuously in the institution is not necessary. These should be removed and paid sufficient to maintain themselves outside. The homes which have been erected must be enlarged to accommodate all others who should live within the institution bounds.

The State can do nothing fairer or more just than to provide its employees in these institutions comfortable, respectable living quarters, where they may live as Americans should live when off duty.

THE QUESTION OF FOOD AND ITS PREPARATION

Probably the most outstanding difficulty in any large institution is food. To get it cooked properly and served in an appetizing manner, to develop good table manners, to secure a variety of foods are all serious problems. Nothing will turn the hair of the superintendent quicker than his kitchen and dining room service, if it is poor.

The kitchens and dining rooms, the selection, cooking and serving of foods and the dining room service have all been placed under the central supervision of a competent dietitian who keeps in close touch by personal visitation. Among her duties is the training of cooks. An effort has been made to place in each institution an educated and trained dietitian but success has not been marked because there are few schools

teaching this subject and they do not train for great populations such as are found in State hospitals.

But notwithstanding this handicap there has been an improvement in the preparation and serving of meals. We are confident that even the greatest fault-finder or severest critic who is competent to contrast the past with the present will concede that a smart dent has been made in the food problem in Illinois' charitable institutions.

The campaign will continue until conditions are established which will not be assailable.

CENTRALIZED SUPERVISION OF FARM AND GARDENS

The farming, gardening and dairying operations of all institutions have likewise been placed under central supervision and organized as one big operation. The special facilities and capabilities of each institution have been studied and advantage taken of them. Some can raise one thing and some another. The greatest benefit has come through stimulation of the heads of these departments through the personal contact of the supervisor. Emulation among the institutions has been productive of results. Under the old system there was no incentive to rivalry. Under the central supervisory system in which all farms, garden and dairies are included, it is incumbent upon each to keep up its work and thereby its reputation.

IMPROVING THE LANDSCAPING AT INSTITUTIONS

The same plan has been adopted in reference to landscaping. The new institutions are without landscaping. Some of the older ones are in need of development. The care of trees and shrubs cannot be neglected in these days, when so much importance is attached to outdoor ornamentation and trees are so highly valued. Landscaping is good employment for patients. Many of them enjoy it and they have been enlisted in it by the supervising landscape gardener.

In his hands have been placed the orchards and small fruit of all institutions to see that they are developed and brought up to standard. Many an institution orchard has been permitted to die because of neglect, yet there is nothing that patients or inmates crave so much as fresh fruit of which they often get far too little. Every large institution should raise enough for its own needs.

THE DEVELOPMENT OF FARM COLONIES

There is no reason why the farming, gardening and dairying operations of State institutions may not be doubled or even trebled. The experiences during the war have demonstrated that patients can till a very much larger acreage than any institution possesses. The St. Charles School for Boys has rented 200 acres to add to its 1,000 and the Jacksonville State Hospital has leased 600 additional acres. All institutions are asking for more land.

No institution is producing enough milk for its own uses. Poultry and poultry products are raised in very small quantities.

Farm colonies are uniformly successful. They offer an ideal life to many patients, including freedom, exercise, absence of irritation and competition, close contact with nature, and living conditions that are superior to those found in even the best regulated central group of the institution.

Superintendents are anxious to develop these colonies, and are prevented only by the lack of farm land.

Through farm colonies, orchards, fruit, poultry and dairy products may be increased. In fact in these colonies may be found the answer to many questions of large agricultural operations of a State charitable institution.

RECOMMENDATIONS FOR THE FUTURE

The recommendations for the future of the charitable institutions are included in the ten-year building program which has been worked out by the department in conjunction with the Division of State Architect.

For the next two years the recommendations for buildings are found in the budget submitted to the legislature.

Of general legislation not a great amount is called for.

There is a demand, especially in Chicago, for legislation to protect the community against a class loosely known as morons. No greater difficulty confronts the student of social problems than that presented by the so-called moron class of criminals.

The problem is recognized in every state in which there are large centers of population and has been receiving the attention of students and state authorities. No solution has yet been offered. That these types are fit subjects for some sort of state supervision, either within or without an institution is recognized on every side. This report is not the place for a discussion of this subject. It should be threshed out under legislative auspices where the results of such discussion can be incorporated in a measure to meet the evil.

SUPERVISION OF COUNTY AND CITY EXPENDITURES

While the law gives to this division the authority to supervise the expenditures of county, city and private organizations for the relief of physical misfortune it has not been necessary to exercise it, for the reason that the Board of Public Welfare Commissioners have the same authority, the machinery with which to exercise it and are exercising it satisfactorily. The report of the commissioners on county, city and private agencies throughout the State was published in the June-September, 1920, number of the Institution Quarterly.

IN CONCLUSION

This report is optimistic. It may appear to be too optimistic. It may mislead some reader to believe that the end has been reached, or that there is little left to be accomplished. It may give the erroneous impression that those responsible for these institutions feel they have reached perfection. Let no such thought remain with you who read these pages. The division believes that improvements have been made in the service rendered by the State to its dependent wards. They are only such improvements as the present-day standards of life and present-day ideals of humanity approve and demand. None of them, however, has been completed or finished. Some of them are only on the threshold.

These institutions are far from perfect. Much that should be done cannot yet be done because there is lack of knowledge, touching the various diseases or disorders which make them necessary. Again there is not the trained assistance that is vital and some of the difficulties tax the most ingenious to devise even theoretical ways out of them.

These institutions need the sympathy and support of the general public, whose knowledge of them is vague and often erroneous.

A closer contact between the institution and its community is always desirable and throughout the whole State an effort has been made to bring them together on a plane of understanding.

REPORT OF SUPERINTENDENT OF PRISONS

JOHN L. WHITMAN, *Superintendent*

A progressive merit system that prepares the prisoners for good citizenship and a prison construction that makes possible the necessary classification and healthful training, is the Illinois idea being carried out at Stateville, the site of the new institution which will soon take the place of the old Joliet Penitentiary.

Illinois insists that prison management should not only concern itself with the safe and secure custody of prisoners, but also with giving them treatment and training that will make it possible to release them as fit subjects to return to society.

Inasmuch as most of those committed to prison must, under the law, be returned to society after a period of a few years, it is to the interest of public welfare that it be recognized the time spent in prison either makes men better or worse. They will be made worse unless, with the aid of adequate prison construction, those charged with the responsibility of prison management, may have the opportunity not only to teach them habits of industry, but to instruct and train them to become dependable and capable of good citizenship.

The new prison, as it is being constructed, provides for safe and secure custody, and it also provides for the operation of the progressive merit system which gradually and systematically assists in the development of stable character.

It is no longer thought necessary or wise to build all cellhouses in a prison strong and secure enough to prevent the escape of those classified as the most desperate. The better method is to build a series of cellhouses which provide a varying degree of restraint so that as progress is made under the merit system and stable character develops, prisoners can gradually be placed more and more upon their own responsibility until it is demonstrated that they are capable of self-control. Then it can reasonably be expected that they will be better citizens than before commitment and can be safely released under the provisions of the law.

Close observation of men leaving prison justifies the conclusion that it is not conducive to good results to release men, even upon parole, direct from confinement in the ordinary cell, and from the usual prison regulations enforced to govern and control the most vicious or desperate class, and incidentally applied to the entire population.

It is found that without preparation before leaving prison, men cannot always adapt themselves to this sudden and decided change of

condition and assert themselves as good citizens. In reality, they are no better than when committed. Their experience in prison may have embittered them and consequently made them more of a menace to society than before.

Many have never known any other than the vicious side of life, and not having been instructed and given the correct viewpoint or trained while in prison, as they might be, they do not know how to use their suddenly acquired freedom except to resort to crime again, in spite of the fact that upon leaving prison they may have had a sincere desire to avoid wrongdoing. Because of their inexperience, they are unable to adapt themselves to right living, and sooner or later the desire to avoid recommitment becomes merely a determination not to be caught again, if with their distorted viewpoint of life they somewhat naturally drift back into crime. If they are caught again, it is usually not until much damage has been done.

Ninety per cent of those committed to the State Penitentiary at Joliet have never served time in a penal institution before, but probably their commitment there had been preceded by several years of reckless, vicious living that smothered all good inclinations. The Illinois idea in the construction of Stateville is to provide facilities properly to prepare prisoners for release at the time when the law says they must or may go out and assume the rights and duties of citizenship. As a means of preparation for that time prisoners should be instructed, trained, and better inclinations aroused so that they will have not only a full realization of their responsibility, but will, with stable character, be capable of discharging any obligation they might be called upon to assume.

PLANS OF NEW PRISON

In order to carry out this idea of prison management, the new prison at Stateville is being constructed with facilities which will make it possible to produce good results along these lines. This prison is located practically in the center of the 2,200 acre tract of land. Sixty-four acres are enclosed within a wall thirty-two and a half feet high with observation towers at each corner. The ground space thus enclosed is effectively divided into four sections by covered passageways connecting the various buildings. The entire west end of this space is thus set apart as the industrial section. The only entrance to the prison beside the one through the administration building is the wagon and railroad gate which opens into the service yard of the industrial section.

The northeast quarter of the balance of space is occupied as a hospital section with buildings suitable for hospital purposes as well as psychopathic and research work, and open ground space for the recreation of convalescent patients as well as those under observation of the mental health officers.

Two other sections within the walled inclosure are known as Number 1 and Number 2, and are for housing purposes. Section Number 3, also for housing purposes, occupies a space of fifteen acres just outside the east wall; this section is enclosed by an appropriate fence. The farm colony, some distance from the prison proper, is looked upon as section Number 4. Opportunity is thus provided for prisoners making progress under the rules and regulations adopted to govern the activities of the progressive merit system to advance gradually from section one to section four which is the farm, where they may be looked upon as fit subjects for parole or release if they maintain their grades there a required length of time.

As indicated before, the housing facilities or rather what is generally known as cellhouses, in these four sections, offer a varying degree of restraint which will be described in other paragraphs.

After new prisoners are received in the usual way in the administration building, their pictures and measurements are taken. They then go direct to the hospital section for examination by a physician and mental health officers. Some prisoners may be held for continued observation and treatment indefinitely, but ultimately, or as soon as the physician's reports on their physical and mental conditions indicate that they are fit subjects to be assigned to work, they are passed on to housing section Number 1 where the progressive merit system starts to operate.

The mental and physical qualifications of each are taken into consideration and a work program is decided upon which in the judgment of the staff that operates the system, will be most conducive to a proper development of mind and body. The most radical difference between the new Illinois prison and all other modern institutions is in the design of the housing arrangements, commonly called cell houses. Many other differences exist in the general plan as well as in the details of design and construction, but the most pronounced departure from the usual practices of prison design is in the conditions and surroundings of the housing accommodations.

In the customary type of cell house, the combining of security with healthful surroundings seems not to have been very successfully done. Where efforts have been made to provide the utmost physical security, such as the old inside cell blocks of Sing Sing and Joliet, the cells have been far from healthful; on the contrary, all inside cell accommodations have been shown to be decidedly unhealthy.

Where efforts have been made to provide sunlight and air by the use of outside cells with windows, the impossibility of supervision has caused these more beneficial forms of buildings to be called unsafe, and in consequence, outside cells have not been generally adopted for penitentiary construction.

The peculiarity of the design of the Illinois housing buildings provides both the security and the healthful cell or room. The building is

circular and the complete interior of the cells, which are upon the outside wall or the circumference of the circle, is visible at all times from the central supervisory point at which a guard may be stationed. The complete and efficient supervision which this design affords removes all danger of providing a large outside window in every cell. It makes possible this privilege, so to speak, for the reason that opportunity does not exist for the prisoner to abuse it.

It very naturally follows that since air supply and ventilation is now available through an outside window, it is no longer necessary to employ the use of the usual open bars as a prison cell. The front of the cell may be largely of glass, which arrangement provides, for the first time, the individuality and privacy of a room rather than the openness and publicity of a cage.

In view of the circular form of the housing buildings, and the fact that all cells radiate toward and face the central point, there is no incentive for an inmate to attempt escape in this direction as he would only expose himself to a precarious position, in full view of his attendants. This feature obviously renders unnecessary the usual prison bars of which all ordinary cell fronts are constructed. Unoffensive but strong doors of steel and glass are therefore used in the cell fronts of the new buildings.

ROOM, NOT A CAGE

Thus, for the first time, an inmate has a room instead of a cage and his surroundings are capable of all the individuality he may be able to exercise. Each cell has its full quota of sunlight also. The sun shines directly into all of the windows on the east, west, and south portions of the circle, while a specially shaped skylight upon the roof of the building permits the sun to shine directly into the glass fronts of all the cells on the north side of the building.

These healthful surroundings, coupled with the utmost security, are descriptive of the design of the two units, having 248 cells each in the Number 1 section, and the same type of building is largely used in the section Number 2 division later described, although certain changes in actual cells or rooms provide for a varying degree of restraint commensurate with the progress of the prisoner.

The principle of efficient supervision is the keynote of the entire design of the prison and the elimination of unhealthful conditions, which were formerly supposed to be necessary for the sake of security, is what contributes most to the successful operation of the progressive merit system.

While in section Number 1, prisoners are kept under close supervision and are given no responsibilities. The cell houses in this section are the "strongholds" of the prison. The supervision exercised is intended to reveal the natural or vicious tendencies of each so as to enable the officials to decide upon the sort of treatment or training that will

most likely promote habits of industry and tend toward the development of such character as permits of progress under the merit system.

Prisoners are advanced to Section 2 when they have demonstrated their ability to assume some responsibilities or there is reasonable assurance that they will continue to progress through the system and gradually become more and more dependable.

Only when a prisoner has demonstrated his utter inability to progress and improve, does he remain for any extended time or perhaps continuously in Section 1.

The varying degree of restraint, which is such an important factor in preparing the subject for his re-entrance into society, is as pronounced in his surroundings as it is in the matter of his treatment and discipline. The cell houses of Section 2 are therefore diversified in character. Provision is made for group cells, where those who would thrive best under association and companionship may have that privilege. The rooms vary in capacity, accommodating from three to six men, and the atmosphere of a prison cell is entirely eliminated.

A large per cent of the prisoners are eligible, under the law, for a hearing before the Division of Pardons and Paroles when they have served one year. At that hearing the division decides upon the length of time each shall serve. Comparatively few are paroled. Those who are, have had opportunity under the progressive merit system to prepare, so that they can readily adapt themselves to right living. Those who may be required by the division to serve a term of years, continue under training, and advance ultimately into Section 3, and then, possibly, into Section 4. The chances are that those who are required to serve a term of years are the ones who, for the final good of the community, as well as for their own future welfare, need an extended course of training to overcome the effects of a previous criminal career, which probably was the result of a lack of proper training at a time in life when it might have been the means of preventing such a career.

The Division of Pardons and Paroles, while considering all cases, has the benefit of the results of the operation of the progressive merit system, and the opportunity afforded by the type of construction of Stateville, to classify the prisoners according to their needs and abilities, and can, therefore, pass more intelligently upon them than ever before.

DORMITORY SYSTEM IN SECTION 3

The buildings of Section 3 resemble a college dormitory system in many respects. The general atmosphere and character of supervision at this period of the inmates' progress is still that of firmness but carrying with it a spirit of extreme fairness. The cottages themselves have both dormitories and rooms in about equal proportion. Each cottage houses fifteen men, and provides the necessary bath, toilet, and wardrobe facilities, together with a large day or living room. Twelve of these

cottages, together with two central dining hall buildings compose the Section 3 group.

This section gives prisoners a splendid opportunity to demonstrate their reliability as responsibilities are placed on them while they are yet under supervision and training. They learn how to adapt themselves to community life and respect the rights of others while enjoying their own rights as decent law-abiding men.

It may take several years for some prisoners to reach this point; but when they do, they will have had a training that will remove them from the class that are a menace to society, and their commitment to prison will have served a good purpose.

Section 4, "the farmer's colony", is another section of Stateville that is important, in that it furnishes prisoners an opportunity to make still further progress under the merit system.

Their work there is supervised as a farmer directs the work on a large farm. Otherwise they are on their own responsibility, except that they are required to obey the rules of the place as they will be expected to obey the laws of the State when finally released.

It should be kept in mind that practically all who are committed to prison must be released, according to the statutes, after having served, either a short or long term of years, and consequently, much thought, attention and effort should be given to the possibility of returning them to society as good citizens.

Illinois is doing this in the operation of the progressive merit system and the construction of Stateville.

THE PROGRESSIVE MERIT SYSTEM

This system, being a thing that is entirely visible to the prisoners, serves to maintain discipline and promote industry, as well as to fit the prisoners for successful careers in after life. It provides that they pass through the following stages while in preparation for freedom:

1. Confinement within the prison, and subjection to all the prison rules, with very little, if any, personal responsibility.
2. Increasing opportunity to merit more confidence on the part of prison authorities, by strict application to industry and adherence to prison regulations.
3. Positions of trust within the prison walls.
4. Life in cottages outside the prison walls; but under supervision of the prison officials.
5. Work on the prison farm, without guards.
6. Parole.
7. Freedom.

Under this plan, more importance is attached to character building than to the mere serving of time, or in other words, the plan is in reality a course of preparation for parole and ultimate freedom, which can rea-

sonably be expected to develop the qualifications necessary to good citizenship, wherever it is in any way possible to develop such qualifications.

The Division of Pardons and Paroles is guided by the progress made under the merit system in fixing the date when the case of a prisoner will be considered. Then, the nature of the charge, the previous history, and the prisoner's mental attitude, as well as the progress made under the merit system, are an aid to the Division of Pardons and Paroles in concluding upon the length of time it will take to complete the course of preparation and at the same time, be a punishment, by way of confinement in prison, that will be commensurate with the crime committed.

The principles and provisions of the progressive merit system are, in each of the penal institutions of the State, carried out by a staff, which is composed of the warden, his assistant, the physician, psychiatrist, psychologist, and at least two of the subordinate prison officials who are in personal contact with the prisoners constantly, and have intimate knowledge of their natural inclinations and habits.

This staff meets daily, and its deliberations and conclusions are minutely recorded by a secretary. It considers cases, and interviews prisoners at regular intervals, as progress or lack of progress is shown.

Thus there are no misunderstandings between the prisoners and the staff. Each prisoner is told just what he may or may not do; what is expected of him; and what he must learn before freedom is given him through the operation, in his case, of the parole law.

The law does not permit of a parole in any case until the minimum sentence of at least one year shall have been served; yet during all that year the staff is studying the individual—really gathering and recording valuable information, which, upon being furnished to the Division of Pardons and Paroles, enables it to pass intelligently upon the case, and determine, with a reasonable amount of assurance, whether or not the prisoner is apt to become a fit subject for parole, and if so, how long a course of training should be given him.

Immediately upon commitment of a convicted person, he or she is thoroughly examined by the physicians, psychiatrist, and the psychologist, each of whom prepares a report of his findings, which they submit for the consideration of the staff, of which they are a part. With this information before it, the staff without delay calls the prisoner into conference, at which time the progressive merit system is fully explained, and the prisoner's ability along industrial lines is considered. His mental and physical qualifications are taken into consideration, and a work-program is decided upon, which, in the judgment of the staff, will help him to assume a better mental attitude (if that is needed) and then, possibly, the individual attention the staff will give him later on, will result in, or be the means of giving to the prisoner a more correct viewpoint of life than he had entertained before. The progressive merit system also provides that progress or lack of progress along these lines shall be recorded for the benefit of the Division of Pardons and Paroles.

Prisoners are divided into five grades: A, B, C, D, and E. Upon commitment, each prisoner is assigned to Grade C, and is eligible for promotion into Grade B after a period of three months. Each prisoner must show steady progress in Grade B for three months before advancement into Grade A, then progress must continue for three months before they become eligible for a hearing before the Division of Pardons and Paroles.

The basis of markings in workmanship include sincerity of effort to produce results, as well as the amount and character of work produced.

The basis of markings in behavior includes not only the gradings of the keeper, but staff judgment, after considering the mental and physical capabilities of the prisoner, together with the general attitude and honesty of purpose displayed.

Upon failure on the part of the prisoner, which is shown by percentage markings, promotion is withheld, or demotion into a lower grade in accordance with rules formulated to govern the activities of the staff is made.

Advantages or penalties, by way of gain or loss of time to be served, are attached to each grade, except that while in Grade C, the prisoner must serve "flat time."

If the prisoner has not advanced through Grades C, B, and A, in accordance with the rules of the staff, he is not eligible for a hearing before the Division of Pardons and Paroles, even though he may have served the minimum sentence provided for his crime. It is possible, however, for the prisoner to gain promotion and maintain such a grade under the progressive merit system, as to entitle him to a hearing before the Division of Pardons and Paroles in eleven months, which is the statutory minimum in most of the cases.

But whether he comes before the division in eleven months, or at a later time, the division has before it the record of the prisoner, which is the result of a comprehensive study pursued for at least a year, from different angles, by the psychiatrist, psychologist, and other prison officials. Finally, their opinions are combined into a judgment, which is verified by the records of the staff operating the progressive merit system.

The staff does not consider the penalty to be fixed for the crime committed. It simply studies the individual, and endeavors to conclude from that study what might reasonably be expected, so far as his future conduct is concerned.

The Division of Pardons and Paroles does consider the crime and the previous criminal history or record of the prisoner, as well as the staff findings, which may indicate that the prisoner should undergo treatment that may take several years to administer. So a time (within the maximum) is set by the Division of Pardons and Paroles, for the prisoner to serve, which will be reduced, or lengthened, depending upon the

effort or lack of effort on the part of the prisoner properly to prepare himself for good citizenship.

If because of lack of effort or bad conduct, a prisoner is demoted to Grade "D," he is penalized at the rate of five days per month; if demoted to Grade "E," the penalty is ten days per month.

In addition to this, when a prisoner is demoted from any grade, he is required to serve three months in the grade to which he is demoted, for each grade dropped.

In Grade "B" again, a prisoner may gain five days per month, and in Grade "A" ten days per month.

The progressive merit system, in its operation, inspires prisoners to entertain an ambition to profit by the training given them while in prison and ultimately became law-abiding citizens. If they realize upon that ambition, some permanent good has been accomplished from the administration of the penal laws.

On the other hand, under imprisonment in the ordinary cell, with no effort made to direct their thoughts into proper channels and arouse them to the entertainment of laudable ambitions, they are more than apt, in the solitude of their cells, to harbor bitter, vindictive thoughts, and when released, to seek revenge upon society for supposed or imaginary grievances.

The spirit of the law contemplates that those committed to prison shall later be returned to society, benefited by imprisonment.

The letter of law plainly says "It shall be the duty of the Department of Public Welfare to adopt such rules concerning all prisoners and wards committed to the custody of said department as shall prevent them from returning to criminal courses, best secure their self support, and accomplish their reformation."

The Department of Public Welfare is administering this part of the statutes by the operation of the progressive merit system which is greatly facilitated by the scientific form of prison architecture adopted at Stateville.

PART OF PRISON OCCUPIED

At the present time about four hundred and fifty prisoners are being housed and cared for in the new prison and are being employed in construction work. One cell house is complete and occupied. A second cell house is under construction, work is now being done above the first story windows. One other building has been erected which will ultimately be used as a laundry and bath house, portions of which are now being used as a prisoners' dining hall and offices. Two other buildings are nearing completion, as is also the wall which encloses sixty-four acres of ground. The program for the immediate future is to provide for the completion of the wall by June 1, 1921; the completion and occupation of the second cell house by July 1, 1921, and the possible use of the other buildings temporarily for housing purposes so that by

September 1, 1921, the entire population may be moved to the new site. A third cell house will then be completed within a reasonable length of time thereafter, and the necessary construction work for the completion of the entire prison will continue with the aid of whatever number of prisoners can be used.

The Civil Administrative Code, under which the Department of Public Welfare was created, made it possible to inaugurate a comprehensive penal system which embraces the administration of all the penal affairs and laws of the State, and especially provides for effective cooperation between prison management and the administration of the parole law. The several penal institutions of the State are now being operated under one system and demonstrations are being made to the effect that confinement in cells behind prison walls, under rigid discipline that does not take into account the individuality of the prisoner, is not the most effective way that previous violators of the law can be lead into good citizenship. This system has been enlarged during the last biennium by the establishment of a State Farm for misdemeanants at Vandalia, Illinois. The State acquired 1,160 acres of land about four miles north of Vandalia and is at present with the labor of prisoners from the Southern Illinois Penitentiary, the Illinois State Reformatory and the Penitentiary at Joliet, developing the land and constructing buildings for housing purposes under the provisions of the law enacted by the Fiftieth General Assembly and appropriations provided by the Fifty-first General Assembly.

The State also, during the last biennium, acquired about eight hundred acres of bottom land adjacent to the Southern Illinois Penitentiary which it is developing as an adjunct to that institution. The opportunity thus furnished to utilize prison labor along agricultural lines will materially aid in the solution of the industrial problems confronting prison management.

Unfortunately, the Illinois State Reformatory at Pontiac is located where it is most difficult for the State to acquire acreage that would furnish to that institution an opportunity to carry on agricultural pursuits to as great an extent as desired.

For details as to the conduct of the several institutions in the penal group, I would most respectfully call attention to the reports of the wardens and superintendents.

REPORT OF THE CRIMINOLOGIST

HERMAN M. ADLER, M. D., *Criminologist*

The duties of the Criminologist, as defined by the Director of the Department of Public Welfare, are as follows:

1. He shall act as chief medical officer of the penal and correctional group of institutions.
2. He shall devise and recommend policies concerning general or special medical and disciplinary treatment, care and after-care of prisoners and delinquents.
3. He shall cooperate with the Superintendent of Prisons in devising plans for the examination and re-examination of all prisoners by the professional staff under his direction, and the making and executing of suitable recommendations as to the management and treatment of the individual prisoners.
4. He shall act as liaison officer between the Department of Public Welfare and other agencies or organizations dealing with delinquency.
5. He shall act as Director of the Institute for Juvenile Research.

ORGANIZATION OF THE DIVISION OF THE CRIMINOLOGIST

In order to carry out these duties, a decision had to be reached as to what would be the most efficient application of the forces at our disposal. The whole idea of a criminologist's division in a state organization is novel. There were no precedents to turn to elsewhere in the country to guide us in the working out of our problems. On the contrary, whenever we attempted to obtain information we were met by the answer that the other communities were looking to us for guidance in this respect. A further very serious complication was due to the conditions in regard to available personnel occasioned by the war.

It is only fair to the members of this administration to emphasize that the Division of Criminologist did not get properly under way until the spring of 1919, six to eight months after the armistice. The Criminologist himself was released from the army in March of that year. He at once set to work to obtain the necessary assistants and to build up a staff sufficient to carry out the instructions of the Director, and with a view to putting in effect, so far as possible after all this delay, the intentions of the legislature and Governor Lowden, so far as they had been indicated. This has given us about a year and a half for effective

work instead of the three and a half years which we would have had under normal conditions.

The Division of the Criminologist, in accordance with the above stated duties, divided its work into the following main groups:

1. The penal and correctional institutions of the State of Illinois. These include:

Illinois State Penitentiary, Joliet.

Southern Illinois Penitentiary, Chester.

Illinois State Reformatory, Pontiac.

Illinois Women's Prison, Joliet.

Chester State Hospital, Chester.

St. Charles School for Boys, St. Charles.

State Training School for Girls, Geneva.

2. The Institution for Juvenile Research.

3. Special institutional surveys, more especially the following:

Illinois Soldiers' Orphans' Home, Normal (completed).

Illinois School for the Deaf, Jacksonville (to be completed).

Illinois School for the Blind, Jacksonville (to be completed).

4. Field work.

RELATION TO OTHER DIVISIONS

In carrying out its work, the Division of the Criminologist has been closely associated with:

- (a) Division of Prisons.
- (b) Division of Pardons and Paroles.
- (c) Division of Charities.

In cooperation with John L. Whitman, superintendent of prisons, surveys of the prisoners of the penal group and reformatory were made and permanent offices were established and organized to continue the work as part of the institution routine. This work is referred to, to some extent, by the Superintendent of Prisons in his report.

Will Colvin, superintendent of pardons and paroles, was very actively cooperative in establishing the system whereby the results of the mental and physical examinations of prisoners were made available for the use of the Parole Board at its official sessions at the institutions. The Criminologist was associated with the work of the Division of Pardons and Paroles in the pardon hearings.

A. L. Bowen, superintendent of charities, cooperated with this division in arranging for similar work in the correctional schools at St. Charles and Geneva.

In working out the scientific standards and in performing the professional duties, the Division of the Criminologist has at all times had

the assistance and cooperation of the alienist and his officers, with the result that a uniformity of standards and a unanimity of purpose have been made possible without the overlapping and duplication of functions, which so often impedes work of this sort.

The details of these many relationships, and the many serious and often vexing problems which have been dealt with, cannot be covered here.

WORK AT THE STATE INSTITUTIONS

The statistical report of the work of this division gives but a meager idea of what actually has been accomplished. A more comprehensive statement will appear in the separate report of the scientific work of this division.

The plan of organization, so far as the institutions are concerned, was to establish at each of them one or more officers, trained in mental examinations, who were to represent the Criminologist.

The term "mental examinations" includes a variety of procedures which, however, have been variously described under the headings of "psychological examinations," "psychiatric examinations," or even more formidable terms. These terms are confusing to the average man and terrifying to the prisoners or patients. They are, furthermore, at the disadvantage of specifying professional distinctions, so far as the officers are concerned, which it is undesirable to retain.

The term "psychiatrist" and "psychologist" were therefore not adopted in the institutions, but these officers were known as "mental health officers." This term is broad enough to include psychiatrists, psychologists and others, and at the same time has not the connotation of insanity and feeble-mindedness that the other titles have. Furthermore, it lays the emphasis on health rather than on abnormality, which is of constructive value in connection with the internal discipline of the institutions.

Prisoners are naturally suspicious. This work depends for its success, so far as any therapeutic value goes, to some extent upon their cooperation. If they believe that this work is intended to demonstrate that they are all feeble-minded or insane, such cooperation cannot be obtained. At the State Training School for Girls, Geneva, for instance, the mental health officers, in spite of every effort, were promptly dubbed "brain touchers" by the girls, which had no ill effect with the alert and mischievous ones but did unduly frighten those who were more suggestible.

The work of the mental health officers was only the beginning of what should be a much more effective cooperation with the institution officials.

The result of the studies of individual prisoners by the mental health officer was in the main to determine their mental ability; to identify those who were feeble-minded, insane or psychopathic; and in all

cases to obtain information in regard to the mental and physical factors of their criminality or anti-social behavior.

The findings of the mental health officer were expressed under three headings:

1. Mental rating.
2. Psychiatric diagnosis.
3. Personality classification.

The mental rating was mainly obtained by the use of the various scales and methods of the psychologists, and indicated the intellectual level of the individual, expressed either in mental age versus chronological age or by the intelligence quotient.

The psychiatric diagnosis was made by a pathologist or psychiatrist, in each case a medical officer who has had special training in this field, and included all the information obtained by the psychological staff, social workers, probation officers, parole officers and institution officials. This classification was possible only in those cases which had mental manifestations of a pathological sort.

The personality classification was made on the basis of the above data as well as the behavior characteristics as exhibited, so far as ascertainable, throughout the career of the individual.

This work is still in its infancy, and has been too newly undertaken in our State institutions to warrant any conclusions, but it may safely be said that already it has proved of use to the various officials of the State who deal with the prisoners. The Superintendent of Prisons, as well as the Superintendent of Pardons and Paroles and their associates have expressed themselves favorably in this regard. The institution officials are, on the whole, favorably disposed towards this work and are cooperating with the mental health officers with the view to determining in each case, on the basis of the peculiarities of characteristics disclosed by the examination, what treatment should be applied.

Through cooperation with various managing officers this work has been organized so that it is carried on smoothly by a special group within the institutions which is designated as the staff. This, it is believed, is a new step in prison management and should ultimately result in the acquisition of valuable knowledge by the various officials associated in prison work.

In regard to the organization of the institution work, one is confronted with the necessity for making a choice between intensive concentration on the problems of the individual institution on the one hand and on the other of adequate provision for the entire State. The temptations to concentrate on one case is ever present, since each one is a problem exciting the curiosity and stimulating the imagination. It must be apparent that exhaustive scientific work on each case is out of the question, and will be for a long time to come. Even if it were found

expedient to devote the money to this it would, in fact, be impossible to get together a sufficiently large staff to perform the work

The problem, therefore, was to organize the work in such a way as to get the most out of the present facilities. The mental health officers at the institutions were therefore regarded as outposts and local representatives of the Division of the Criminologist; to perform the routine examinations; to serve as intermediaries between the institution officials and the specialists on the staff of the Criminologist; and to serve as professional advisors to the managing officers and his staff at the institution. At intervals a group of workers visits the institution and makes a complete survey of the prisoners who have been received since the last survey, thus bringing the institution up to date so far as possible. This activity was made possible by the assistance of the Institute for Juvenile Research, which has served as headquarters for the Division of the Criminologist and was the center of the scientific activities of the division.

INSTITUTE FOR JUVENILE RESEARCH

In August 15, 1920, the Juvenile Psychopathic Institute was moved into new quarters. With this move, its title was changed by order of the Director of the Department of Public Welfare to the Institute for Juvenile Research.

It had been found that the older term of "Juvenile Psychopathic Institute" was undesirable because of its emphasis on the abnormal through the word "psychopathic" and, furthermore, because of this long foreign word. The new title of Institute for Juvenile Research has no such unpleasant connotation and, furthermore, lays the emphasis upon investigation, which has always been emphasized by the State of Illinois but has not been provided for in the field of delinquency and criminality. Early in the history of the department, the other officials came to the conclusion that if any progress were to be made in dealing with delinquency it would be necessary to undertake the investigation of the developmental factors instead of devoting the effort exclusively to studying the end results in the penal and correctional institutions. This was in accord with the best opinion obtainable in the country and coincides with similar decisions reached elsewhere in the country, notably the Judge Baker Foundation, Boston.

The function of the Institute for Juvenile Research is to study the behavior difficulties of children, with the object of obtaining information in regard to the nature and treatment of these difficulties.

The approach to this problem lies through several specialties; namely, those dealing with:

1. The physical characteristics of the child.
2. The mental characteristics of the child.
3. The environmental factors.
4. The career.

As the result, it has been the endeavor of the division to secure for the staff workers especially trained in medicine, particularly in psychiatry; psychologists of various degrees of expertness from mere mental testing to the more intricate problems of behavioristic psychology, educational and vocational psychology, and psychopathology; social workers; experts in statistics; and technicians.

In order to fulfill its function, a service of practical value must be offered to those having children with behavior difficulties.

So absorbing is this work that unless special attention is given the matter, the entire equipment of the State is presently devoted to a few cases from some one locality to the entire neglect of the other communities.

For reasons of practical efficiency, it was necessary to select a site for the institute and Chicago was decided upon, briefly for the following reasons:

1. Chicago furnishes some one-third to one-half of all the problems of juvenile delinquency and more than one-third of all the cases of criminality that the State has to deal with.

2. Although situated at one extremity of the State, Chicago is strategically the best location for a State-wide activity, since, on account of the arrangement of the railroads, it is possible to reach any part of the State from Chicago more quickly than from any other point within the State.

3. In order to produce the sort of results which are commensurate with the size and importance of the State of Illinois, it is necessary to bring to bear upon this subject all the resources of the community. Chicago offers greater opportunities in regard to libraries and laboratory facilities, as well as association with other workers in this and associated fields of inquiry, than any other community in the State.

4. This work, being in the nature of scientific investigation, entails duties in regard to the training and education of workers in the various sub-specialities, and properly should be associated with the University of Illinois. Furthermore, since it deals so largely with pathological manifestations, it is the University of Illinois College of Medicine which has the greatest interest in this work. As the result of this, a combination of effort has already been effected between the Division of the Criminologist of the Department of Public Welfare and the College of Medicine of the University of Illinois. On the strength of this combination, the Criminologist was appointed Professor of Criminology and Head of the Department of Social Hygiene, Criminology and Medical Jurisprudence at the College of Medicine of the University of Illinois, and has held that position since September 1, 1919. The University of Illinois, furthermore, has placed at the disposal of the

Institute for Juvenile Research the building at 721 South Wood Street, Chicago, which enables the institute to house its examining rooms and laboratories and makes possible the conducting of its various activities.

As this building is not fire proof, it was regretfully decided to leave out of consideration all plans for bed space for children. Such a provision is most urgently needed, if this institute is to fulfill satisfactorily its functions. It is hoped that the work done here will appear sufficiently important in the eyes of the legislature to warrant the appropriation of funds for a specially constructed building, with suitable arrangements, which will offer accommodations for the care of children during the period of observation, as well as for the laboratories of the institute.

It is only a few months since we left the hospitable roof of the Cook County Psychopathic Hospital and have been installed in the present building, where we have a little more elbow room. We, therefore, must be modest in our claims of accomplishment, but enough has been done to encourage the workers of the institute in their endeavors to find methods of preventing and of treating the behavior difficulties.

The five or six thousand delinquent children that have been passing through the Juvenile Court of Cook County every year, not to mention the many cases that occupy the attention of the County Courts throughout the State, indicate better than words the need for this effort. In order to accomplish satisfactory results, more adequate provisions in the directions pointed out above will be necessary.

ORGANIZATION OF THE WORK OF THE INSTITUTE

The work of the Institute for Juvenile Research so far consists briefly of the following general divisions:

1. *The Routine Examination of Cases Referred to the Institute by Various Agencies.*

Reference to the list below will show that the sources of these cases are from all over the State and from all sorts of agencies, the great majority of which operate throughout the State. Only those cases were examined at the institute which could be brought to it. This necessitated our foregoing the studying of many cases with which we become acquainted outside of Chicago, or in being able to give only partial examination to such cases. The division has attempted to extend its work all over the State, so far as possible, and has met with cordial cooperation on the part of numerous local communities. It has now more invitations for community and field work than it has been able to accept. What is needed in this regard is an arrangement whereby children who are suitable subjects for special investigation may be sent to Chicago and taken care of by the institute until their cases are completed. This is another argument for the erection of a suitable building to house the

institute. The Division of the Criminologist has already instituted arrangements whereby it will be possible, through suitable districting, to cover the entire State with field workers and special examiners, and thus be able to offer intelligent assistance to judges and other local officials in dealing with the problems of juvenile delinquency. But in the course of this work children are continually being discovered who require more thorough study than can be given in this way. This often requires the use of apparatus and instruments of precision which cannot be carried about the State. It is not possible to consider a multiplicity of institutes for juvenile research for many reasons, notably the difficulty of securing experts in sufficient number, which has been referred to previously. Obviously, the most logical, economical and efficient solution is to concentrate the special work at the institute in Chicago and equip it in such a way that it can render the service to the State as a whole. The results of the work of the institute so far leave no doubt as to the interest on the part of the communities throughout the State, as well as their desire to make use of the institute if it is made possible for them to do so. These routine examinations include a complete physical examination, with anthropometric measurements; a mental rating by the psychological staff and a mental examination which is devised to detect the existence of any of the more serious pathological signs or symptoms. At the conclusion of this examination, the examining staff meet in conference and decide in each case whether further study is required in order to solve the problem presented. If not, the disposition is discussed and a suitable recommendation is made and recorded. This recommendation is then transmitted to the authorities or the agency referring the child.

2. *Special Cases.*

If the case is found to be incomplete and subject to further study, an appointment is made for further examination. These special examinations include a detailed inquiry into the physical and mental factors, such as, particularly, the study of the disturbance of the metabolism, and evidence of disturbance of the internal secretions, which have been shown of late to have important bearing upon behavior difficulties. It is in this latter field again that the need for beds for the patients is so urgently felt. Some of these examinations cannot be made satisfactorily and some are entirely impossible under the conditions of dispensary work.

3. *Staff.*

It will be seen from the above that the main point of the organization of the institute is the coordination and cooperation of various specialties, and with a view to this the staff has been constituted so that there are representatives upon it of the various types.

THE JUVENILE DETENTION HOME

The branch of the institute at the Juvenile Detention Home, Chicago, is in line with the general policy for expanding the activities of the institute, to cooperate with the County Courts in connection with cases of juvenile delinquency. An experimental combination of effort has been worked out in Cook County with satisfactory results.

The county of Cook, which is not financially able to support an adequate research laboratory for its Juvenile Court, has contributed to the State Institute for Juvenile Research, the services of one psychologist and one stenographer, and has furnished offices and examining rooms at the Juvenile Detention Home. The institute furnishes the supervision and general direction of the work and is responsible for the standards. The staff of the institute contribute to the examination of children at the Juvenile Detention Home by making special examinations wherever necessary. In return for this, the institute has the opportunity of obtaining for special investigation problem cases in juvenile behavior and, above all, is able to make a very special preliminary study in the cases of boys and girls committed by the court to St. Charles and Geneva.

This part of the work is particularly valuable to the State in that it coordinates the effort so that it is effective at every stage of the child's career. As the work at St. Charles and Geneva is perfected, this connection with the court and the sources from which the children come will be of still greater benefit to the institution officials in the treatment and after-care of these children.

This arrangement has been tried sufficiently, and with sufficiently satisfactory results, to justify the statement that the move we have made is an example of the kind of cooperation which could be effected elsewhere.

It is not likely that many of the other counties would have a sufficiently large number of juvenile cases to justify the same procedure, although there are a number now which could well afford to do so. Where the counties are too thinly populated, or where there are not sufficient problems to occupy the full time of a mental examiner, a combination of two or more counties could be effected. The examiner could then travel on a circuit and be at the various county seats on specified days for examinations and for consultation with the court.

The advantage of this scheme over the alternative of having the State employ all the workers is that the court can keep the authority over the work and at the same time have the benefit of the State's equipment. Furthermore, with a cooperative arrangement, it would be possible to appoint to these places relatively less experienced workers, since they would have the State organization to fall back upon in especially difficult cases. It would not be possible to supply the one hundred and two counties of the State with workers of sufficient training to do justice to all the problems that arise, but it would be quite feasible,

especially in view of the fact that the University of Illinois as well as other educational institutions are preparing workers for this field, to find one hundred and two workers of sufficient training to work under the direction of the State department, the more so as they could have a preliminary course of training at the institute.

One such mental examiner and one stenographer, appointed by each of the larger counties and by combinations of the other counties, would probably do more to get at the true facts in regard to delinquency among children in the State of Illinois, and would do more towards helping them by the early recognition of the possibility of preventative treatment at a time when we can still do some good, than almost any other measure that has been suggested.

The medical, psychological and psychiatric features of the case have thus been dealt with by the specialists, but in addition the social, environmental and developmental factors are studied. This is made possible mainly through the work of the Social Service Department.

SOCIAL SERVICE DEPARTMENT—INSTITUTE FOR JUVENILE RESEARCH

The Social Service Department of the Institute for Juvenile Research, from its beginning in January, 1918, has functioned in two capacities: first, as the social service for the institute of which it is an integral part, and second, as the social service unit of the district of Cook County for any other of the State institutions which wished to refer cases to it. The district plan of social service, i. e., the plan by which a unit does all the various types of social work for the State within a prescribed territory, has been under discussion for some time in the Department of Public Welfare.* The Social Service Department of the institute serves as an illustration of the feasibility of this plan.

The present report of the Social Service Department's activities covers the period from October 1, 1918, to September 30, 1920, inclusive.† Its functions are conveniently grouped under four headings: investigation, treatment, instruction and research.‡

I.—Investigation.

Investigations are undertaken for one of three reasons: as a preliminary to treatment; as a means of determining the advisability of undertaking treatment and as an aid in diagnosis. An investigation may

* See the Institution Quarterly for December 31, 1919, "Plan for the Organization of a State System of Social Service."

† The institute cases referred to in this report include General File from 562 to 2409 inclusive; "A" File, from 210 to 518 inclusive and "B" File from 104 to 250 inclusive. The total number of institute cases under consideration, therefore, is not that considered in the general report of the institute which includes only the General File.

‡ In this report prevention is not considered as a separate function since it is an inseparable part of all the activities of the department. No case work, for example, is done at the institute without preventive work being done in some degree with the patient, with his family, with the community.

be partial or full as the requirements of the particular situation or the resources determine. A full investigation is one in which every available source of information is consulted. So intensive is this work that one worker with no other duties could complete a possible eight a month.*

During the two years here considered the Social Service Department has made 600 investigations, 261 full and 339 partial.

The following table gives the institutions and agencies for which these investigations were made:

Institute for Juvenile Research.....	80
Kankakee State Hospital.....	149
Elgin State Hospital.....	66
Watertown State Hospital.....	4
Jacksonville State Hospital.....	3
Geneva State Training School for Girls.....	160
St. Charles School for Boys.....	68
Lincoln State School.....	3
Woman's Prison.....	56
Joliet Penitentiary.....	1
Pontiac Reformatory.....	6
Officers of the Department of Public Welfare.....	2
Agencies outside the State.....	2

Two other activities may properly be included in investigation work. The first is that of history taking in the institute at the time of examination. A member of the Social Service Department has the title of historian. One other member has been delegated to supplement her on certain mornings. During this two year period 944 complete histories and 606 partial histories have been taken.

The second activity is termed social follow-up, i. e., the following up of cases examined at the Institute for Juvenile Research but not under the care of the Institute Social Service, in order to determine, by periodic inquiries from agencies or individuals in charge of the patient, what methods of treatment have been used and with what results. The objects of this work are to study and record methods of treatment and to assist in treatment by suggesting changes when indicated. One thousand two hundred and twenty-two institute cases have thus been followed.

II. Treatment.

Treatment cases—frequently known as supervision cases—are of two types, intensive and non-intensive. To use another terminology, one consistent with that used of investigation, the cases call for full or for partial supervision, dependent upon the needs of the case and upon the presence of cooperative agencies working on the problems presented. Theoretically a full supervision case after a period of intensive treatment passes through successive stages each requiring less concentrated work. For instance, such a case may be said at first to be so time and energy consuming that one worker might carry possibly eight with no other work; at a much later period of treatment, possibly just before closing it or before putting it into the social follow-up group, a case might require such infrequent contacts that one worker with no other work

* This number would, of course, vary according to the number and character of resources, the number of new cases started at one time and the extent to which form letters were used.

might carry sixty of similar character. Some cases, of course, may at no time need more than partial supervision from the Institute Social Service. In actual practice few cases pass through any such regular order of development as that just noted, but the above figures serve to show the relative amount of time involved in what the Social Service Department calls its full and partial supervision cases.

During the two years covered by this report 175 cases have been under treatment, 91 for full supervision and 84 for partial supervision only. The sources of the cases were:

Institute for Juvenile Research.....	98
Kankakee State Hospital.....	32
Elgin State Hospital.....	12
Geneva State Training School for Girls.....	16
St. Charles School for Boys.....	6
Lincoln State School.....	2
Woman's Prison.....	4
Pontiac Reformatory.....	1
Chester State Hospital.....	2
University of Illinois Medical College.....	1
Agencies outside the State.....	1

With the school at Geneva the institute has a working plan by which the Social Service Department of the institute is to take for investigation each month five Cook County commitments and is to have referred to it for supervision all girls whose cases have been investigated by the department. This plan went into effect January 1, 1920.

The accompanying three analyses of cases indicate the type of treatment given by the Social Service Department. They also illustrate a striking feature of the institute, i. e., the group character of all the work done therein.

STATE OF ILLINOIS.

DEPARTMENT OF PUBLIC WELFARE

INSTITUTE FOR JUVENILE RESEARCH.

Case of Dementia Praecox, Boy age 19.

Reason for Examination	Patient behaves "foolishly." Does not associate with others. Tortures animals. Tantalizes people. Tires of work in one week.
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(Continued on following page.)

HISTORY		FINDINGS	
Heredity	Shiftlessness, desertion, insanity, sexual immorality, alcoholism.	Mental	Intellectual development average. Lack of success and idea of syphilitic infection inherited from grandparents explained only by scattered bizarre statements with empty, depressed mood interrupted at times by inadequate laughter. Admission of withdrawal from social contact. Side-tracking of interests. Disregard of personal appearance.
Social Conditions	Neighborhood poor and congested. Home unsanitary and crowded. Mother in State Hospital for Insane. Father dead. Grandmother unable to control patient. Dependent on charities for past 20 years.	Physical	Palate high and narrow. Constipated. Underweight.
Habits and Behavior	No special interests. Wants to sit alone. Does not care for companions. Not affectionate. Superstitious. Sharp and shrewd. Honest. Profane. Jealous. Willing to help in the house. Cannot hold a job. Smokes, chews. Masturbation. Enuresis.	Social	Verification of statements given in History. Additional facts obtained. (see History).
Previous Medical History	Nothing significant known.		
School	Left at 14 in the 7th grade.		

**PRELIMINARY DIAGNOSIS
DEMENTIA PRAECOX**

EXPERIMENTAL SOCIAL STUDY			
EXPERIMENTS		RESULTS	
Vocational	Fifteen jobs (factory and farm) secured in seven months during which patient worked aggregate of 80 days.	Vocational	Lacked persistence, initiative and interest. Gave inadequate reasons for leaving work or left without reason.
Educational	Reading Habits and attitude.	Educational	Showed no interest. Exhibited increased worry over his inheritance of syphilis and insanity. Developed mild idea of persecution and self abasement. Uncommunicative. Showed no improvement in care of personal appearance.
Development of Social Sense	Recreation—Y. M. C. A., movies, outings to parks, dinners with worker.	Development of Social Sense	Recreation—Showed no interest. Attended irregularly. Generally had to be taken. Unresponsive.
Church		Church	Not interested.
Associates		Associates	Preferred to be alone.
Workers	Changed (man and woman)	Workers	Reaction colorless to both workers.
Adjustment of Domestic Problems	Health of Family—Medical care and outings obtained. Home—Sanitary conditions improved. Attitude of family toward patient improved.	Adjustment of Domestic Problems	Good cooperation from other members of family.

CONCLUSION

After 7 months of study a definite diagnosis of Dementia Praecox was made. All attempts to adjust patient to environment having failed, patient was committed to State Hospital for the Insane.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WELFARE
INSTITUTE FOR JUVENILE RESEARCH.
Case of Feeble-minded Boy. Age 16 years, 3 months.

Reason for Examination Patient unable to progress in school.
Mother asks advice and help in finding work.

HISTORY

Heredity Father insane, alcoholic, sexually immoral.
Mother "epileptic" seizures until age of 20.
Brother feeble-minded, delinquent with psychopathic trend. No other facts known.

Social Conditions Home broken up in 1906 by death of father. Patient and mother roomed with strangers until 1912 when home was re-established. Mother does day work. Income supplemented by boarder and charities—School, retarded (3rd grade). Attendance irregular.

Habits and Behavior No delinquencies. Secondary interests of infantile nature.

Previous Medical History Physical development retarded as to walking and talking.
Enuresis.

FINDINGS.

Mental Mental age—9 years 1 month. I. Q. 60.9.
Voice monotonous and low.
Mechanical interests.

Physical Palate unusually high and narrow. Scoliosis. Underdeveloped as to height, weight and skull measurements.

Social Verification of statements given in History and additional facts obtained.
Home congested and unsanitary.
Patient has no supervision during day, no direction of leisure time. Overindulged by mother. Restless. Abuse of patient by brother. (See under Heredity.)

DIAGNOSIS FEEBLEMINDED MIDDLE GRADE MORON

TREATMENT

Physical
Diet regulated—Braces secured—refraction—dental care.

Social

Vocational
Six mechanical jobs secured, each held with increasing steadiness.

Educational
Referred to night school for shop work. (Electricity.)
Simple reading supplied.
Personal hygiene taught.

Control of Leisure Time
Referred to Y. M. C. A. swimming pool, neighborhood settlement and playground.
Sunday school encouraged (educational).
Proper associates supplied.

Family Adjustments
Removal of brother to institution.
Financial aid obtained.
Home made attractive.

PRESENT STATUS—After 18 Months.

Steady improvement in patient's health, and social adjustments. Secondary interests developed. Has held present job for twelve months. Self-supporting and assists mother financially.

STATE OF ILLINOIS

DEPARTMENT OF PUBLIC WELFARE

INSTITUTE FOR JUVENILE RESEARCH.

Case of Psychopathic Personality
 Girl—Age 10 years, 5 months.

Reason for Examination Appealing to strangers for aid by means of note making false representations. For other reasons see delinquencies under History and Findings.

HISTORY

Heredity Insanity, precocity, sex delinquency and emotional instability (both sides). Addiction to drugs, inadequacy in meeting situations (paternal).

Social Conditions Both parents college graduates. Father, teacher—mother formerly teacher, now clerical assistant, away all day. Present Home—Physical environment, adequate. One brother, 15—delinquent (run away and larceny). Three other children—no difficulty. Past Homes—much moving from town to town due to father's changes of position.

Habits and Behavior Plays with younger children—cutting paper dolls, etc. Delinquencies—petty stealing and truancy from home since age of six. Recently represented her father as dead and herself as a homeless orphan.

School Started at 6 years. At age of 10 in 7th grade.

Previous Med. History. Negative.

FINDINGS

Based upon observation at Institute—mental age, 14 years, 3 months. I. Q. 136.8. No foresight, inclined to day dreaming, restless, not frank with self nor others (no friends). Does not always distinguish between fact and fancy. Cheerful. Unusually attractive and pleasing in manner and appearance.

Mental Based upon data furnished by Social Field Worker—superficial, selfish, pleasure loving, extravagant, wants comforts and luxuries above parents financial condition. Easily fatigued and discouraged. Suggestible, impulsive. Attitude toward delinquencies repentance, sincere but fleeting. Does not benefit by previous experiences. Interests childish. Aims—precocious and fantastic.

Physical Poor chest expansion; defective vision.

Social Verification of facts given in History on early environment and heredity (see also note on "Father" under "Home Supervision.") Home supervision exceedingly lax. Mother not interested in children. Findings confirm opinion of psychiatrist that father is inadequate personality—No family life. School—Occasional truancy. Bright but poor application and interest. Delinquencies—From age of 3—stealing, lying, running away from home. From age of 9—disguising in adult clothes, buying clothes on parents' charge account without consent, ransacking house, use of profane language, setting papers in house afire so as to cause sensation.

DIAGNOSIS
 PSYCHOPATHIC PERSONALITY

TREATMENT

Mental	Effort to establish habit of concentration and of reflection. Attempt to present experiences of patient before her in objective light. Exercises given with idea of developing ability to plan and to correlate cause and effect.
Physicial	Refraction. Plan—To bring about a compromise between patient's childish activities and her fantastic adult aims, to provide healthy interests, to bring her into intimate contact with realities and to develop real intimacies with children of her own age.
Social	Methods—Art, music, dancing and French lessons. Group outings, to country, parks, circus, movies, Sunday School, group games; reading (domestic science, nature studies). Encouragement of friendships (parties and other group recreation). Attempt to bring about more cohesion in family group.

PRESENT STATUS

After 18 months patient is still under treatment. Her delinquencies are occurring with less frequency but it is doubtful whether she is capable of permanent benefit.

III. Instruction.

For the past two years the University of Chicago has sent students of sociology to the Institute Social Service Department for field work one day a week. There is a new group of about eight students each quarter. The instruction which they receive at the institute is planned to supplement the theoretical work which they are taking. It is in no way intended to train them for social work; it does serve, however, to give them an insight into a possible field for later training.

During the spring quarter before it became a department of the University of Chicago, the School of Civics and Philanthropy also used the Social Service Department of the institute as a training station.

From time to time the Social Service Department has requests from social workers in other agencies for opportunity to do practice work at the institute. The Social Service Department has felt this to be an especially valuable type of student to have—one who would take back to her own agency the psychiatric point of view and who while at the institute would contribute her agency's viewpoint on case work.

This miscellaneous group of students includes also a student from the Smith College Department of Sociology who was here in the summer of 1919 and an instructor of sociology who was in the department for about two months in the spring of 1920.

A more intensive course of instruction than any of the foregoing was entered upon by the institute on June 21, 1920—a course for social workers in public mental health. This was given by the Division of the Criminologist in cooperation with the Chicago School of Civics and Philanthropy. The following very brief outline will show the salient features of the course:

COURSE IN PUBLIC MENTAL HEALTH

Purpose of the Course

To train social workers in the examination and treatment of behavior problems.

Entrance Requirements

For the entire course—A bachelor's degree and either training in a school of social work or an extended social service experience.

For the lectures only—By special arrangement.

Length and Arrangement of Course

Six months

First term—Two and one-half months. Alternating days of class work and field work. Inspection visit one day every other week.

Second term—Three and one-half months. Full field work and conferences, the class divided between the Institute for Juvenile Research and the Elgin State Hospital.

*Content of the Course**I. Theory:*

a—Scope of work—

Human behavior.....	44 hours
Psychiatry	44 hours
Psychology	36 hours
Clinical technology.....	18 hours

b—Methods of instruction—Lectures, clinics, class discussion, reading and written exercises.

II. Practice:

a—Scope of work—

First term—

Social follow-up cases of behavior difficulty previously examined at the Institute for Juvenile Research.

Supplementary histories in cases of juvenile delinquents examined at the Institute for Juvenile Research.

Investigations in cases of delinquent girls committed to the State Training School for Girls.

Histories of State Hospital patients.

Technique of collecting, analyzing and recording investigations.

Technique of treatment through case presentation.

Second term—

Investigation and treatment of cases of juvenile delinquency, crime, mental defect and mental disease.

b—Methods of instruction—Field work, individual supervision, group conferences, case presentations, reading and written reports.

III. Inspection Visits:

State Training School for Girls.

State Training School for Boys.

State School for the Feeble-minded.

Penitentiary for Men and for Women.

Two State Hospitals for the Insane.

County Infirmary.

Officers of Administration and Instruction

Herman M. Adler, A. M., M. D., Director, Institute for Juvenile Research, State Criminologist; Professor of Criminology, University of Illinois College of Medicine.

H. Douglas Singer, M. D., M. R. C. P., Director, State Psychopathic Institute; State Alienist; Professor of Psychiatry, University of Illinois College of Medicine.

Samuel N. Clark, M. D., Psychiatrist, Department of Public Welfare; Associate in Neurology and Psychiatry, University of Illinois College of Medicine.

Ralph P. Truitt, M. D., Medical Director, Illinois Society for Mental Hygiene; Assistant Professor of Psychiatry, University of Illinois College of Medicine.

Charles F. Read, M. D., Managing Officer, Chicago State Hospital.

David M. Levy, M. D., Assistant Psychiatrist, Institute for Juvenile Research.

Harrison L. Harley, Psychologist, Institute for Juvenile Research.

John T. Metcalf, Ph. D., Psychologist, Division of the Criminologist.

Harriet Gage, Chief Social Worker, Institute for Juvenile Research, Supervisor in charge of Field Work.

Zaida Udell, Chief Social Worker, Elgin State Hospital; Instructor of Field Work.

Bertha Corman, Social Service Field Worker, Institute for Juvenile Research, Instructor of Field Work.

Elizabeth S. Dixon, Registrar, Chicago School of Civics and Philanthropy.

During the first term an average of sixteen attended the lectures; seven of these took the field work as well. Five students are taking the entire six months' course. They are already engaged to take positions on completion of their work—one with the State Alienist's clinic at the University of Illinois Dispensary, one with the Institute for Juvenile Research, one with the Elgin State Hospital and two with the Red Cross.

IV. Research.

Under the general head of research come certain special studies made by the Social Service Department, brief presentations of which follow:

1. STUDY OF RECREATIONAL RESOURCES IN CHICAGO

In August, 1920, the Social Service Department of the institute embarked upon an experiment—namely, the employment of a special recreation worker. Recreation had, of course, always played a large part in the Social Service Department's case work but hitherto it had been used rather as a means of controlling leisure time than as a real therapeutic measure. To bring out the possibilities of applying a certain type of recreation to a certain type of case needed a worker with special training. Such a worker was added to the staff in August.

In surveying the field for a worker this was found to be a unique idea; no general medical nor psychiatric social service department had ever—so far as could be learned—developed recreation as a special department of case work under a specialized worker. There were, therefore, no precedents to help in organization or methods. An analogous situation, however, was that of the dietitian in a hospital social service department and the scheme of relationship which such a worker sometimes bears to other workers in a department was adopted experimentally.

That is, the recreation worker acts in three capacities: first, she does all the case work on a small group of cases, the main treatment problems of which are recreational; second, she does recreation work on cases "carried" by other workers in the Social Service Department, the

treatment being given on a cooperative basis; third, she serves in an advisory capacity to the rest of the staff in problems of recreation.

In starting this work the first need was found to be a study of existing local recreational resources.

There were three principle parts to this study, namely: securing definite information concerning daily schedules in order to facilitate recreational placing; tabulating this information into a convenient card index; planning a basis of cooperation with the various institutions having recreational features.

The study covers public and private (philanthropic) recreation. A detailed examination was made of the following groups of activities: parks and playgrounds, school community centers, the public library system, settlements, institutional churches, recreational centers and special agencies including community service, Civic Music Association, Drama League, Y. W. C. A., Y. M. C. A., Boy Scouts, Girl Scouts and Camp Fire Girls. The conclusions reached through the study are, stated briefly, as follows:

Although there are areas in Chicago in which recreational facilities are needed, the greatest need at the present time is a comprehensive survey of the facilities now in existence, which will result in information as to just how adequately these resources are meeting the demands of leisure time. A plan for the correlation of these recreational forces and suggestions concerning a future plan for development should also be formulated. Fourteen park boards operating within the city limits is only one indication of the lack of a unified plan. The vast field of commercial recreation is practically untouched so far as supervision is concerned and with each shortening of the working day the problem of wholesome recreation for leisure time is increased. Other cities are awakening to a realization of the necessity of definite knowledge along these lines * * *. In many cities such surveys are resulting in the establishment of a recreation board, the interest of which will be every phase of recreational development and correlation * * *. An attempt to survey recreational advantages for boys in Chicago and to evaluate them is at present in the early stages of development while a few other indications show that thought is beginning to be focussed upon this problem of correlation.

In the absence of a recreation clearing house, the institute social service faces the necessity for making a plan for obtaining routinely information concerning special recreational events.

Some of the special recreation problems of the Social Service Department of the Institute for Juvenile Research are taken up under the following heads:

a—Mentally Handicapped Children. "No institution visited reported an activity designed to meet the needs of this group of children, the reason being that an insufficient number is known to any one institution to make such provision possible. Placements in clubs are now determined by chronological rather than by mental age. While no one questioned has said that admissions to the regular clubs will be refused this group, many expressed doubt as to whether such a child would receive much benefit therefrom. This is particularly true of the sub-normal adolescent."

b—The Negro. "The number of places offering recreation for this group is wholly inadequate * * *. The question of furnishing negroes with recreation in institutions organized primarily for white people is viewed by a number of leaders antagonistically, by all with a feeling of uncertainty. * * * If negro leaders could be found, use of available park club rooms for negro clubs would seem to be at least one solution to this problem."

c—Recreation for Girls on Parole from the State Training School. "Questions concerning recreational placements have on the whole been answered favorably, with the request, however, that frankness regarding the delinquency thereof be an element of the cooperation. Leaders feel that they will thus be able to anticipate certain undesirable relations which may arise and cope with them more intelligently. The girl need not know that this information has been given unless such knowledge be considered helpful in her treatment. Probably the greatest difficulty in this phase of the work is the attitude of the girl herself regarding supervision, recreational placing being only another element of this in her conception and therefore objectionable. This seems to be particularly true in the matter of individual recreation with a worker."

Several practical points are raised in the discussion under this topic. For example, "Can the worker really succeed in establishing a recreational plane which will be considered such by both the girl and herself?" "How can a girl's recreational inclinations be so utilized as to create in her a wholesome secondary interest?" "In how far will recreational placement be handicapped by the inadvisability of allowing a girl to return to her home alone after an evening at a club?"

The above report is the first of a series of studies of recreational problems. Three others are already under way: a study of recreational advantages in Chicago industrial plants; a study of recreational facilities in suburban towns where many placements are being made, especially in domestic service; and an analysis of different types of recreation in terms of personality. This latter study is of especial importance as preparatory to the scientific use of recreation in behavior difficulty cases.

2. STUDY OF CASES OF ESCAPE FROM ELGIN STATE HOSPITAL

In November, 1919, the Social Service Department of the Institute for Juvenile Research began work on a group of 26 Chicago cases escaped from the Elgin State Hospital since July 1, 1919.

It was found that six of the twenty-six patients had been returned to the hospital previous to the undertaking of this group investigation. Of the twenty remaining cases five were located, homes visited and other sources consulted but the patients themselves were not seen. In five cases the patients also were seen, three of these five at the institute. Seven patients could not be located. Clues as to their whereabouts immediately following escape were found, but these clues were too old to prove of value. In three other cases no clues whatsoever were found.

Suggestions based on the investigations were made in all of the cases located, either for the return of the patient or for their supervision by Elgin, by the Institute Social Service or by responsible individuals or agencies recommended by the institute.

The most obvious conclusion reached through this study was that an escaped patient should be followed up immediately, since the chance of locating him, of returning him, if necessary, or if not necessary of getting his confidence, of helping him to adjust himself and of preventing harm to himself and society is inversely proportional to the time that elapses between escape and follow-up.

The work with this group of cases raised another point long recognized by administrators as affording grounds for criticism of their institutions. Like the foregoing note regarding lapse of time between escape and follow-up, this point has no special reference to a local situation, but deals with a condition almost universal among state hospitals; the illustrative figures alone are local.

Social service investigation warranted the recommendation that seven of the located patients in the group be left in the community under supervision. Through escape they called attention to the fact that they were eligible for parole. How many less enterprising patients equally eligible for parole remain unnoticed?

It is a problem of selection for parole and of suitable supervision on parole and the solution of the problem, i. e., individual study of patients, systematized methods of deciding eligibility for parole and adequate social service facilities for supervision on parole is too evident and too widely accepted by institution administrators to call for any discussion in connection with this study, even were it the place for such discussion. The point was brought out in the conclusions drawn from this study because of the part that social service can take in the solution of such a problem. Social service can furnish data to facilitate the study of the individual patient in the institution and can provide the needed supervision on parole.

3. STUDY OF A FAMILY SOCIAL HISTORY

Among the special group of patients escaped from Elgin State Hospital whose cases were investigated by the Social Service Department of the Institute for Juvenile Research was one Earl R—— who escaped in August, 1919, after having been in the institution about six weeks. He had been committed because of frequent major epileptic attacks. Letters to addresses which the patient had given as those of relatives were returned to the hospital. At the time of escape, the hospital had no facts relative to patient's identity nor to his past family history. The initial investigation presented some points of interest socially which seemed to warrant an exhaustive study of the family history. It was found that the patient, 23 years old, had been in thirteen institutions in

Illinois, among them four State institutions—St. Charles, Lincoln, from which he had escaped three times, Kankakee, from which he had escaped, and Elgin; that in some of these institutions he had gone under his own name and in others under that of his brother; that after his last escape from Lincoln he had married a feeble-minded girl, who, with her baby, is now in Lincoln; that the other five living children of the mother's four marriages and two other known alliances had also spent a large share of their lives in institutions, public and private; and that the family as a whole had been known since 1898 to forty different social agencies in this State.

Several points were brought out in the discussion of this case, among them the very apparent duplication of effort on the part of many of the agencies involved and the lack of any coordination in the work done by all these agencies upon the case. This is an excellent illustration of the need of registration by social agencies. The ineffectiveness of social work based on superficial investigation also appears at many points in the history.

The need too of central registration for all State institutions is felt strongly in a consideration of this case. Four members of this family were patients in State institutions. The patient himself was in four different State institutions without any one of them knowing of his histories in the others. With a central registration bureau there could not have occurred the situation which existed at the time of his escape from Elgin, i. e., the absence of all facts concerning his past history and clues to his possible whereabouts.

Besides the supplementary recreational investigations mentioned above the Social Service Department has undertaken work on three other special studies.

1. The Social Service Department has now completed 160 full investigations of girls committed from Cook County to the State Training School, and 56 investigations for Joliet Woman's Prison. This is a bulk of material which lends itself well for study, the investigations being very intensively made and almost uniformly recorded. The department is now starting on the analysis of these data.

2. In August, 1919, the Social Service Department opened at the institute a deposit library of 120 books from the Chicago Public Library for use in treatment work. The collection now contains over 300 books. These have been carefully selected, the department drawing for suggestions upon its past experiences and upon such literature as could be found on the therapeutic value of reading. This literature is extremely meagre—reading having in the past been used in hospitals and correctional institutions almost wholly as a recreation, effort having been put upon the elimination of the pernicious rather than upon the selection of certain books for certain tendencies discovered in a psychiatric analysis.

The department has interested some library workers in the experiment of applying special types of reading to cases of behavior difficulty and it is hoped that together it may be possible to work out some contribution to social treatment methods.

3. One of the workers in the Social Service Department who has had a long experience in social work with negroes has taken for study the subject of inter-racial conditions as affecting the group of colored patients under the care of the department. As indicated in the report of the recreation study above quoted the colored Geneva girls on parole present a big recreational problem. The difficulties in connection with industrial placements and living conditions are almost equally serious.

This study, therefore, includes the investigation of resources for all the different phases of these patients' lives. In the process of this survey as in all activities which take the workers into the field, the institute is at the same time making valuable contacts with members of the community actively or potentially interested in these problems.

MRS. HARRIET GAGE, *Chief Field Worker.*

BI-MONTHLY BULLETIN

In order to knit together the work of the entire division and to keep those on outpost duty at the institutions informed of the progress in their science, it was found advisable to issue a work organ. This has taken the form of a small bulletin, which has been issued bi-monthly and which endeavors to contain a fairly complete list, with summaries, of the current literature. Since this bulletin is a work organ it has refrained from publishing any news, any original articles, or from making any editorial or interpretative comment on the current literature; it has confined itself merely to abstracting in the most precise form.

This work has proved of interest to the staff of the division, who have assisted in the work. Twice a month the literature is reviewed at a staff meeting of the institute. In preparation for this meeting, the journals and books are assigned for review to the various members of the staff.

RESEARCH OF THE INSTITUTE

Research, which is a fragile plant, has not yet emerged from the grounds of the institute sufficiently to put forth mighty blossoms, but the indications are that healthy progress is being made.

The research which is at present going on, on which some reports have already been published the details of which will appear in the special scientific report to be published separately, is as follows:

1. Relation of intelligence to delinquency.
2. Relation of problems of personality to delinquency.
3. Studies of metabolism disorders in cases of behavior difficulties.
4. Relation between certain behavior characteristics or mannerisms and mental rating, by Dr. David M. Levy.

CHANGES IN PERSONNEL OF STAFF

During the two years just passed (October 1, 1918, to September 30, 1920), the following officers have resigned:

	Entered service.	Resigned.
Psychiatrists:		
Dr. Samuel N. Clark.....	Dec. 18, 1917	Mar. 1, 1920
Dr. Kenneth W. Kinney.....	Oct. 21, 1919	Mar. 1, 1920
Assistant Psychiatrists:		
Dr. Margaret J. Chung.....	Dec. 18, 1917	Nov. 25, 1918
Dr. Raymond K. Foxwell.....	Sept. 29, 1919	Mar. 10, 1920
Dr. Esther S. B. Woodward.....	Dec. 1, 1919	June 1, 1920
Psychologists:		
Harrison L. Harley.....	Aug. 1, 1917	Oct. 1, 1920
John T. Metcalf.....	July 12, 1919	July 31, 1920
Junior Assistant Psychologists:		
Miss Frances J. Perkins.....	Feb. 4, 1918	June 14, 1920
Miss Sadie R. Myers.....	Jan. 19, 1920	July 31, 1920
Biometrist:		
Dr. Curt Rosenow.....	June 15, 1918	Aug. 14, 1920
Assistant Physician:		
Dr. Martha Hayward.....	Dec. 2, 1918	Dec. 1, 1919
Clinic Manager:		
Mrs. Mabel Nixon.....	April 15, 1918	Feb. 19, 1919
Mrs. Divekey.....	April 7, 1919	May 8, 1919
Miss Mildred Huser.....	July 1, 1919	June 14, 1920
Chief Social Worker—Superintendent of Social Service:		
Mrs. Helen Anderson Young.....	Jan. 28, 1918	July 1, 1920
Social Service Field Workers:		
Otto Wander.....	Sept. 6, 1918	Feb. 1, 1920
Miss Kate Constable.....	Nov. 8, 1918	July 1, 1920
Miss Catherine B. Adams.....	Nov. 10, 1919	June 22, 1920
Leland H. Weers.....	Nov. 12, 1919	Dec. 20, 1919
Miss Vanja E. Rundquist.....	June 30, 1920	Aug. 30, 1920
Miss Elizabeth Walker.....	Aug. 6, 1920	Sept. 11, 1920

Two of the members of the staff have resigned to return to academic work. Dr. Curt Rosenow resigned to accept a position as assistant professor of psychology at the University of Kansas. Dr. John T. Metcalf, after having completed a very thorough investigation of the mental ratings of the prisoners at the Illinois State Reformatory and Illinois State Penitentiary, resigned to accept a position as assistant professor of psychology at the George Washington University, Washington, D. C. Mr. Harrison L. Harley left on October 1, 1920, on leave of absence, to attend Harvard University, where he will engage in special research in psychology. He will return next autumn.

TABLE I—NUMBER OF EXAMINATIONS MADE BY THE DIVISION OF THE CRIMINOLOGIST DURING THE TWO YEAR PERIOD—OCTOBER 1, 1918, TO SEPTEMBER 30, 1920

	Mental ratings only.	Complete mental and physical analyses.
Institute for Juvenile Research.....		1,999
Institutions:		
1. Illinois State Penitentiary, Joliet.....	979	967
2. Illinois Woman's Prison, Joliet.....		54
3. Southern Illinois Penitentiary, Chester.....		1,076
4. Illinois State Reformatory, Pontiac.....		1,576
5. St. Charles School for Boys.....	700	
6. State Training School for Girls.....	331	142
7. Soldiers' Orphans' Home, Normal.....	325	
8. Chicago Home for Girls.....		98
9. Elizabeth McCormick Fund.....	40	
10. Cook County Detention Home.....	1,008	
Field Work (Clinics):		
1. Argo and Summit, Ill.....	28	
2. Coal City, Ill.....	7	
3. Duquoin and LaSalle, Ill.....	52	
4. Freeport, Ill.....	36	
5. Lexington, Ill.....	10	
6. Lockport, Ill.....	5	
7. Maywood, Ill.....	10	
8. Princeton, Ill.....	9	
Totals	3,358	5,912

TABLE II—LIST OF INSTITUTIONS WHICH HAVE REFERRED PATIENTS TO THE INSTITUTE FOR JUVENILE RESEARCH

	Number of patients referred since founding of institute.	
	Period October, 1918, to October, 1920.	Period December, 1917, to December, 1920.
Courts:		
*1. County Court	39	87
*2. Detention Home Cases.....	4	5
*3. Juvenile Court	483	577
4. Other city courts.....	6	21
**5. State Courts Outside Chicago.....	10	11
Medical Agencies:		
*1. American Red Cross.....	25	53
*2. Aurora Anti-Tuberculosis Society.....	1	1
3. Central Free Dispensary.....	5	8
4. Chicago Health Department.....	1	1
5. Children's Memorial Hospital.....	7	8
*6. Cook County Hospital.....	52	66
*7. Cook County Infirmary.....	1	1
8. Hahneman Hospital	1	1
9. Home for Destitute Cripples.....		2
**10. Illinois Charitable Eye and Ear.....	1	1
**11. Illinois Social Mental Hygiene.....	8	16
12. Infant Welfare Society.....	2	2
**13. Interdepartmental Social Hygiene Board	4	4
14. Michael Reese Hospital.....	6	6
*15. Municipal Tuberculosis Sanitarium.....	8	10
**16. Physicians	44	59
17. Presbyterian Hospital	1	1
*18. Psychopathic Hospital	181	194
**19. Public Health, Harvey, Ill.....	4	4
20. Public Health Nurse.....	1	2
21. University Illinois Dispensary.....	4	4
22. Visiting Nurse Association.....	10	10
23. Wesley Hospital		1
24. West Side Hospital.....	1	1
25. Chicago Ethical Society.....	1	1
Orphanages:		
1. Chicago Jewish Orphans Home.....		1
2. Chicago Nursery and Half Orphans Home	15	17
*3. Crane Fund for Widows and Orphans..	1	1
*4. Guardian Angel		9
*5. Illinois Masonic Orphan Home.....	2	2
*6. Mark Nathan Orphanage.....	4	4
*7. Methodist Deaconess Orphanage.....	2	2
*8. Mooseheart	3	4
9. Nachusa Orphanage	1	1

TABLE II—Concluded

		Number of patients referred since founding of institute.	
		Period October, 1918, to October, 1920.	Period December, 1917, to December, 1920.
Child Placing:			
**1.	Catholic Dependent Child Committee...	14	14
**2.	Illinois Charity Home and Aid.....	267	281
**3.	Jewish Home Finding Society.....	49	62
**4.	St. Vincent DePaul.....	12	12
Protective Agencies:			
1.	Girls Protective Bureau.....	24	27
**2.	House of Good Shepherd.....		1
**3.	Immigrants Protective League.....	5	6
4.	Juvenile Protective Association.....	65	87
Social Centers:			
1.	Boys Brotherhood Republic.....	2	2
2.	Chicago Commons	1	2
3.	Community Welfare, Aurora.....		3
4.	Eli Bates Settlement House.....	2	2
5.	Gads Hill Center.....	1	1
6.	Hull House	1	5
7.	Northwestern University Settlement....	7	7
8.	Off the Street Club.....	1	1
9.	Providence Day Nursery.....	1	1
10.	St. Mary's Mission Home.....	2	2
11.	South Park Commission.....	1	1
12.	University Chicago Settlement.....	6	7
13.	Y. M. C. A.....	1	1
14.	Y. W. C. A.....	2	2
Charities:			
**1.	Association Charity, Kenosha.....	1	1
**2.	Association Charity, Oak Park.....	1	1
*3.	Bureau Personal Service.....	158	195
**4.	Central Association Evanston Charity..	12	12
**5.	Central Charity Bureau.....	3	3
**6.	Central Howard Association.....	1	1
*7.	Chicago Foundlings Home.....	8	8
*8.	Chicago Home for Friendless.....	1	1
*9.	Cook County Bureau Social Service.....	23	35
10.	Jewish Aid Society.....	55	76
11.	Salvation Army	1	1
12.	United Charities, Chicago.....	190	190
Industrial Welfare:			
1.	Fred Harvey and Company.....	1	1
2.	Welfare Dept. Chicago Telephone Co....	3	3
3.	Welfare Department, Sears Roebuck....	1	1
Schools:			
1.	Catherine Coates Industrial School.....	2	2
2.	Chicago Typothetae School of Printing..	1	1
3.	City, Public and Private.....	61	69
**4.	Glenwood Manual Training School.....	45	49
**5.	Lincoln State School.....	1	1
6.	N. B. Favill School of Occupation.....	1	1
**7.	Outside City, Public and Private.....	17	17
**8.	Park Ridge School for Girls.....	21	21
**9.	State School for Deaf.....	1	1
Correctional Institutions:			
*1.	Chicago and Cook County School for Boys	13	16
**2.	State Reformatory, Pontiac.....		2
**3.	Joliet State Penitentiary.....	1	1
**4.	Industrial School, St. Charles.....	7	26
State Hospitals:			
**1.	Chicago State Hospital.....	9	67
**2.	Elgin State Hospital.....	55	81
**3.	Kankakee State Hospital.....	227	309
**4.	Watertown State Hospital.....	2	2
Miscellaneous:			
**1.	Chicago School of Civics and Philosophy	1	1
**2.	Delineator Magazine	2	2
**3.	Illinois Free Employment.....	1	1
**4.	Interested Individuals	166	236
**5.	Urban League	1	1
Total Number of Patients Referred by:			
(a)	Institutions operating in Chicago only...	495	484
(b)	Institutions operating in Cook County...	971	1,195
(c)	Institutions operating throughout State..	1,031	1,383
		2,497	3,062

* Institutions operating in Cook County.

** Institutions operating throughout the State.

TABLE III—TOTAL NUMBER OF PATIENT VISITS TO INSTITUTE FOR JUVENILE RESEARCH.

	Period from October 1, 1918, to September 30, 1920.								
	Adult.			Juvenile.			Total.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
New Cases—									
(a) Examinations—									
1. Probation and Parole.....	7	8	15	137	61	198	144	69	213
2. Voluntary Cases.....	135	281	416	809	561	1,370	944	842	1,786
Total.....	242	289	431	946	622	1,568	1,088	911	1,999
b) For Report by Parole—									
Cases from State Hospitals.....							138	154	292
Total new cases.....							1,226	1,065	2,291
Return visits of old—									
Patients.....									2,383
Total visits.....									4,874

It is no mere figure of speech, however, to say that this report completes a period of activity in the State service which has been unruffled by a single unpleasant incident, but on the contrary has been filled with activities of absorbing interest, carried out with enthusiasm and a smoothness of cooperation which attests better than anything else the unusually happy conditions under which we have been permitted to work.

This report would be incomplete if I did not take the opportunity to express my deep obligation to Mr. Charles H. Thorne, director of the Department of Public Welfare, for his support and advice in the development of the division; to Judge J. E. McClure, assistant director, Mr. John L. Whitman, superintendent of prisons, and Mr. Will Colvin, superintendent of pardons and paroles, for their continued support and encouragement in the difficult task of applying mental science to the penal and correctional institutions; to Mr. A. L. Bowen, superintendent of charities, Colonel Frank D. Whipp, fiscal supervisor, Dr. H. Douglas Singer, alienist, and Miss Annie Hinrichsen, executive secretary of the Welfare Commission, for their many acts of courtesy. To the members of the staff of the Division of the Criminologist as well as to the wardens, managing officers and the officers of the institutions, I wish to extend my grateful recognition of the friendly spirit which they have always shown me.

REPORT OF THE DIVISION OF ALIENIST

H. DOUGLAS SINGER, *Alienist*

GENERAL CONSIDERATIONS

In the last report certain general principles were laid down concerning the development of the work of this division which have been closely followed. These, therefore, require no particular discussion here. The definite formulation of the agreement between the University of Illinois and this department in regard to cooperation for the conduct of research and teaching is, however, of such far-reaching importance and has had such influence upon the plans for development as to merit brief consideration.

By this agreement there is assurance that the investigative work will be placed upon a sound footing under the direction of the University, which exists primarily for such work, free from the insistent demands of routine application of already established knowledge which is the particular function of an administrative department. The plans for the Psychiatric Institute building which will house the Psychopathic Institute have received the closest study and are now practically complete.

In this building provision is planned, first for wards for in-patients so grouped as to permit the reception and study of different types of cases and to provide variety in treatment. Second, for a dispensary service for out-patients which, in large measure, will furnish the material for study in the wards and in addition provide opportunities for investigation of the earlier stages and slighter degrees of mental disorders under conditions in which they have actually developed. This last feature is of great importance for there can be no question that social environment is an important factor in their development. That this is true has long been known but has been especially emphasized by experience, both in military and civilian life, during the war.

The question of laboratory facilities has also been given most careful consideration with a view to deriving the greatest possible benefit from the cooperative agreement. Laboratory studies in mental disorders are closely akin to those carried on in every other branch of medicine. Many different subjects of scientific work, biologic chemistry, serology, bacteriology and histo-pathology are involved; hence, there is need for trained specialists in many technical fields.

The State, if it maintains a University College of Medicine, must provide trained personnel and equipment for investigative work and

teaching in all such branches and it is practically impossible, besides being un-economical, to collect a group of high grade men under any other auspices than those of a University.

It has, therefore, been decided to provide in the hospital of the Psychiatric Institute no special laboratories for other than clinical work but to arrange that investigations in special fields shall be carried out by workers detailed for this purpose in the University laboratories under the supervision and with the advice of the heads of these laboratories. Thus the clinical psychiatrist will have the advantage of consultation with and assistance from experts in all problems relating to mental diseases.

Laboratory studies of mental diseases in most psychiatric institutes have been greatly hampered by isolation from other fields of medical research. The plan here outlined will completely relieve this condition. The immense importance to the State of such work is adequately indicated by the big demands which are constantly being made for more accommodation for the end-products of these diseases.

The development of the plan of cooperation has also had considerable influence in determining the order of procedure in carrying on the work of this division. Thus it was decided to develop the dispensary service of the College of Medicine for mental and nervous diseases so that a source of supply of patients may be available when the new hospital is completed.

In order to permit closer attention to this and at the same time with the hope of rendering the location more attractive to laboratory workers whom, the institute, in common with other scientific laboratories, has found it very difficult to secure, the headquarters of the Psychopathic Institute was moved from Kankakee to the Chicago State Hospital in October, 1919.

WORK ACCOMPLISHED

(1) The State School of Psychiatric Nursing located at the Chicago State Hospital has shown healthy growth and undoubtedly fills a recognized need. The great majority of the pupils have come from general nursing schools for a four months' period of instruction. That there have been so few pupils entering for a full three year course is a source of regret but this shortage has been prevalent everywhere even in long established schools.

In measuring the benefits which the State secures from the school it must be remembered that, besides training nurses for executive positions in the State hospitals, (a) the pupils, all well educated women with high ideals, perform regular nursing work in the Chicago State Hospital as part of the training course and that the shortest course given—four months for affiliated pupils—is considerably longer than the

average stay of attendants. (b) Even if such pupils do not enter the service after completing the course of instruction, the State is benefited by the fact that nurses are being sent out into the community with training in that most neglected field of work, the care of mental cases. (c) The affiliation with other fields of nursing and the high standards which are there required cannot fail to raise the general standard of nursing care in the State hospitals.

Eventually this school should have headquarters in the new hospital of the Psychiatric Institute where, by reason of the grouping with general medical and surgical hospitals, some modifications in the curriculum of great advantage will become possible. There will, however, always be needed affiliations with the larger State hospitals for practical field work.

The character of the work and the number of pupils are shown in the following table:

Course of instruction.	Number of pupils.
Regular three year.....	4
Affiliated course, 4 months:	
School.	
Presbyterian Hospital, Chicago.....	28
U. S. Army School of Nursing.....	20
Illinois Training School.....	8
Clarkson Memorial Hospital, Omaha, Nebraska.....	4
	†60
Post-graduate, 6 months.....	†6
Post-graduate, special, for graduates of Illinois State Hospital schools, 3 months	14
	84

* One was found unsuitable during the probationary period.

† Four did not complete the course.

‡ One did not complete the course.

In addition 74 pupils received one week of field work instruction as part of a course in Public Health Nursing given by the Chicago School of Civics and Philanthropy.

(2) Occupational therapy has been consistently developed in the hospitals and special efforts have been made both by lectures and at staff meetings on the occasion of visits to the different hospitals to encourage its practical application. Too much stress cannot be placed upon the principle concerned in this method of treatment which, in the large, is that of educating the patient in habits of life which will permit him to mingle with others and apply himself steadily to some task.

The reason for the commitment of the patient is always faulty behavior, however caused. Occupational therapy is not merely a measure for diverting the mind. Its aim is improvement in the patient's habits of action. It does not endeavor to produce marketable products. The organization of this work is based upon progressively increasing demands for steady interest and application leading finally to vocational training and industry. The particular occupations selected are primarily such as appeal to the interest of the patient and secondarily such as will prove of value in the adoption of a vocation.

In this field again there has been an unfortunate shortage of trained workers which has become more acute since the recognition of the value

of such treatment has led to competition by other hospitals and agencies for the services of available workers. Until the summer of 1920 a school for the training of occupational therapists was maintained in cooperation with the Illinois Society for Mental Hygiene. During the war this received a large impetus from the demands for graduates by the Army. Since the war, the supply of pupils has rapidly diminished and the school has been discontinued by the Mental Hygiene Society. The training of the last class was carried out at the Chicago State Hospital and was completed in September, 1920. It is proposed that a school for therapists be established in connection with the new Psychiatric Institute.

Up to the present time it has been found impossible to secure a trained worker for the Peoria State Hospital but all other hospitals have been supplied. The results have everywhere justified the effort and there has been noteworthy improvement in the care of patients perhaps nowhere so marked as in the Jacksonville and Chicago State Hospitals.

(3) The plan for the regrouping of patients, according to the treatment needed, which was referred to in the last report, has been instituted and carried as far as seemed wise or possible. It is intimately bound up with the development of the conception of the hospital as an educational institution referred to under occupational therapy. Since each group is founded upon the particular kind of treatment needed by the patients it has seemed unwise to make the changes before the units in which any given group is to be placed are fully prepared to carry out the treatment.

In order to determine the relative size of the different groups and thus to afford criteria for determining the most suitable section of the hospital for their accommodation, a survey has been carried out of the treatment needs of all patients in the seven established hospitals. This survey will be published shortly.

(4) Close cooperation has been maintained with the State Architect in the planning of the new hospitals at Alton and Dixon. For this purpose the survey referred to in the last paragraph has been of great service by affording standards for determining the relative size of, and facilities requisite for, the different subdivisions.

(5) In conjunction with the Division of State Criminologist a course of instruction in neuro-psychiatry has been given to social workers.

(6) *Dispensary clinics* designed in part to provide local centers for the after-care of patients released from State hospitals and in part to assist communities, desiring such assistance, by giving advice as to diagnosis and treatment of persons presenting evidence of the danger of mental breakdown or unsocial behavior, have been established in connection with State hospitals. It has been possible to secure field workers for these clinics. This has been true at Elgin, Jacksonville and Chicago. Many communities are fully alive to the value of such clinics and have

requested their installation. It has not been possible to comply with all requests owing to shortage, not only of field workers, but also of State hospital physicians with sufficient experience to justify the attempt. In some instances there has at first been some fear lest such clinics may be a paternalistic effort on the part of the State to undertake the care of local conditions. But as soon as it is realized that, far from this being the case, the State will act only in a consultant capacity leaving the individual work to be carried out by the community itself, such apprehension has speedily been allayed. Only in regard to patients on parole from a hospital will the State officers undertake treatment and even here it is hoped that much assistance will be afforded by the community.

(7) With the assistance of Dr. Horatio M. Pollock, loaned by the New York State Hospital Commission, a complete system of statistics has been established, the various record blanks have been amended to conform to it and all hospitals and private institutions have been given instruction in its use.

(8) The shortage of physicians in the hospitals which became especially acute with the war has continued without much abatement since. This has been particularly true of men with experience. It has, therefore, been impossible to assemble many groups for periods of instruction in the Psychopathic Institute. Two such courses have been held. The first for assistant managing officers lasted one week and was devoted to topics designed to emphasize the importance of making the work of the staff more practical in the treatment of patients with less emphasis upon the mere labelling of the disease.

The second course was given to assistant physicians and lasted two months. It covered the general field of psychiatry and consisted of lectures, demonstrations and case studies. Such courses will be continued as it becomes possible to detail physicians away from their hospitals and it is planned to give special courses in connection with the dispensary clinic at the College of Medicine. Upon the occasion of visits to the different hospitals, staff meetings have been attended and efforts made to give instruction through the discussion of cases.

(9) Considerable time has been devoted to the development of the dispensary clinic at the College of Medicine. This is now in operation every day. So far it has been impossible to secure field workers with psychiatric training to assist but advantage has been taken of the workers at the Chicago and Elgin State Hospitals and of the Illinois Society for Mental Hygiene which has cooperated very heartily. This work has been pushed only during the past year and there has been a steady increase in the number of patients and in the requests for assistance from various social agencies.

The following table indicates the number of cases which have been dealt with during the past year:

New cases.	Male.	Female.	Total.
Nervous diseases.....	43	51	94
Mental disorders.....	114	122	236
Other conditions.....	14	13	27
Doubtful.....	10	15	25
Incomplete.....	9	7	16
Total.....	190	208	398

The total number of visits to the clinic by new and old cases for the year was 2,323.
The corresponding figures for the previous year were 157 new cases with a total of 1,012 visits.

Of the new cases, 28 were referred for treatment to other departments of the dispensary, 11 were referred to the Institute for Juvenile Research, 19 were brought for diagnosis only, 15 were recommended for commitment, 2 went as voluntary patients to a State hospital and 1 was recommended for commitment to the Lincoln State School. The remainder were treated in the dispensary clinic with such social supervision as the limited means at hand permitted.

(10) The laboratory work of the institute has suffered greatly from lack of assistance. The work was practically stopped by the war because the assistants with one exception entered the army. Since the conclusion of the war one returned for several months but then left to take up special clinical work. The Wassermann work has been maintained, the number of specimens examined being 49,543. In addition a number of other routine laboratory tests have been carried out as requested.

Investigative work necessarily has been limited but has been carried on so far as possible. The studies which have been made have, because of existing conditions, been mainly in biologic chemistry but there is at the present moment good prospect of securing a histologist and clinical pathologist.

PLANS AND RECOMMENDATIONS

1. Development of the dispensary work both of the central Psychiatric Institute and in connection with the State Hospitals. The former will be used as a training center for physicians and more fully organized with a view to research investigation into environmental factors and for preventive work.

2. With a return of more normal conditions of employment it will become possible to secure assistants for laboratory work and this will be pushed as far as possible along lines which will facilitate the transfer to the University when this agreement goes into effect.

3. Post-graduate teaching with a view to enlarging the supply of physicians interested in psychiatry for the service both of the State hospital and the community.

4. The concept of the hospitals as educational units will be pushed and organization for this purpose developed.

5. Training in psychiatric work for social workers and occupational therapists will be developed as far as possible.

6. It is strongly recommended that every effort be made to improve the housing conditions for physicians in State hospitals with a view to rendering the service attractive as a permanent vocation with a prospect of an approximately normal home life. This is of greater importance than increase in salaries.

DIVISION OF PARDONS AND PAROLES

WILL COLVIN, *Superintendent*

War and the reconstruction period produced crime waves throughout the country without parallel. All large cities, from the Atlantic to the Pacific and from the north to the south, have suffered during the past two years as never before from the commission of major crimes. With crime waves everywhere it does not seem possible that the administration of the parole law in Illinois could go forward—winning commendation from crime commissions, judges, prosecuting attorneys and police departments—and yet that is the record of accomplishment by the present Division of Pardons and Paroles during the biennium from September 30, 1918, to September 30, 1920.

In brief the Division of Pardons and Paroles calls attention to some of the more important accomplishments during the two years, as follows:

In after-care and supervision of its prisoners upon parole Illinois has taken front rank, during the past two years, among the various states having parole laws.

Every person sent to a penal institution, except the life termers, and he is such a small per cent of the total, must come out some day, either upon parole after serving a portion of his sentence or by discharge after the sentence is served in full. That being so, the present Division of Pardons and Paroles has made a drive to release prisoners under the best possible conditions, securing the best job obtainable at the best possible wage, and keeping in daily touch with the prisoner through a thoroughly trained, organized and systematized parole department.

Result: 7 per cent of the total number paroled out of the Joliet Penitentiary were returned during the biennium, September 30, 1918, to September 30, 1920, for parole violations, as against 15 per cent returned to the same institution during the twenty-three years preceding this biennium.

In its drive for after-care and close supervision of prisoners Illinois has attracted the attention of officials in other states doing similar work and at the Congress of the American Prison Association has received the commendation of other states, several of which have investigated the Illinois plan and are now putting similar plans into operation.

COOPERATION WITH COMMITTING AUTHORITIES

Accomplishments that are proving most satisfactory have followed the drive for cooperation between the committing authorities in the various counties and the State paroling authorities. Prior to the year 1918 the Illinois State's Attorneys Association, in annual session, regularly condemned the parole law and its administration. In their 1919 session the State's Attorney's Association not only commended the parole law but also paid high compliment to its administration.

Cooperation between the committing authorities, including the state's attorneys and trial judges, with the State paroling authorities has worked to the great good of the public welfare, even though little publicity has been given to the manner in which these public officials are meeting upon a common ground for the first time in many years; or in fact for the first time since the parole law went into effect in 1895. The Civil Administrative Code rearranged the administration of the parole law so as to make possible these improvements and betterments.

COOPERATION WITH POLICE DEPARTMENTS

Great good to the public welfare also has resulted from the cooperation established by the Division of Pardons and Paroles with police departments in the larger cities, including Chicago; Springfield, Peoria, East St. Louis and Rock Island. Although their problems were the same the police department of the great city of Chicago and the State paroling authorities never met upon a common ground until two years ago. For more than twenty years the police system of handling human derelicts could only be expected to produce at least one hundred professional criminals each year. Men going out of prison, as every prisoner must some day if he lives, either upon parole or with a sentence served in full, can now receive the friendly help and advice of the large police departments of Illinois cities. Men upon parole are no longer viciously arrested without cause and thrown into police stations. The dragnet has been eliminated. Men upon parole who want to return to right living can succeed in Illinois with the help and assistance of the police, who, under cooperation with the Division of Pardons and Paroles know where paroled men work in the day time and where they sleep at night.

Some idea of the far-reaching effect of accomplishments possible under cooperation with the police may be realized when attention is called to the fact that from 88 to 90 per cent of the incoming population each year at the Joliet prison are first termers. They furnish the timber which can be reclaimed to society.

COMMENDATION BY CHICAGO CRIME COMMISSION

Accomplishments by the Division of Pardons and Paroles are best told, briefly, in the commendation by the Crime Commission of the Chicago Chamber of Commerce, printed in the Journal of Criminal Law and Criminology, under date of November, 1920, as follows:

If all of our public servants functioned as conscientiously as the present Division of Pardons and Paroles there would be no need for the continued existence of the Chicago Crime Commission.

The Chicago Crime Commission has been doing effective work for two years. It is one body in Chicago which has no ulterior purpose to serve. Its sole object is to relieve crime conditions in that great city. The crime commission has carefully investigated the work of the Division of Pardons and Paroles and is fully familiar with its efforts to best serve the public good.

COMMENDATION BY ILLINOIS STATE'S ATTORNEY'S ASSOCIATION

For many years, prior to 1918, the Illinois State's Attorney's Association regularly condemned the parole law. The Illinois State's Attorney's Association, in annual session at Decatur in December, 1919, commended the parole law and its administration in the following language:

The State's Attorney's Association of Illinois, in annual convention assembled, having had under consideration the Parole Act of Illinois, declare,

First—That the records of the three penal institutions, Joliet, Chester, Pontiac, together with the records of the Division of Pardons and Paroles, disclose, under the operation of said act, a remarkably small percentage of paroled persons, who have, while on parole, been charged with the commission of new and other offenses, and sentenced thereunder to return.

Second—That the purpose and spirit of said act is wholesome and good, and its administration, as now conducted, has been, and is producing excellent results.

Be it therefore, Resolved by the Association, That the said Parole Act, be and the same is hereby endorsed and approved; and,

Be it Further Resolved, That the administration of said act under the direction and supervision of Will Colvin, superintendent of pardons and paroles, and his associates, John L. Whitman, superintendent of prisons, and James E. McClure, assistant director, be and the same is, most heartily approved; and,

Be it Further Resolved, That this association will cooperate, in the fullest measure possible, with said administrative officials, in carrying on this important work.

OUT-OF-STATE PAROLE

In accordance with recommendations made by members of the Division of Pardons and Paroles the last General Assembly enacted legislation under which it became possible, for the first time, to release persons back to their home states to do their paroles. Many persons from other states get into our penal institutions while temporarily in Illinois. For more than twenty years these persons were compelled to remain in Illinois when coming out of the penal institutions upon parole. The system was bad, worked many hardships and incidentally was responsible for many failures while upon parole and the consequent result in later years of returning persons to prison for technical violations of parole by reason of leaving the State.

Under the new legislative enactment it has been possible, since July 1, 1919, to send 95 persons back to their home states to do their paroles. Of this number 29 were out of Joliet, 44 out of Chester and 22 out of the Pontiac Reformatory. A rule of the division requires that the sponsor, upon an out-of-state parole, must be some public official. Without personal investigation of such sponsor the division assumes that any public official in another state, such as sheriff, state's attorney, judge, mayor or town marshal, is a fit and proper person to act as sponsor for the parolee. Great good to the public welfare has been possible of accomplishment through the out-of-state parole.

DEFINITE SENTENCE PAROLE

Operation of the Definite Sentence Parole Act of 1915 also reveals a remarkable record of accomplishment. From the time the Definite Sentence Act went into effect until September 30, last, covering a period of five years, a total of 137 Joliet prisoners were beneficiaries under its provisions. Prior to its adoption definite sentences for murder, rape and kidnapping were not parolable. Of the 137 definite sentence cases paroled in the past five years from Joliet, 80 have received final discharges, 50 remain upon parole and are reporting, and 5 have failed. Of the 5 who failed 2 are serving sentences in other institutions and 3 are at large. The five year definite sentence record is that 95.62 per cent of the total number paroled have made good.

Until the enactment of the Definite Sentence Parole Act prisoners serving definite sentences served their time in full, received a ten dollar bill at the door and were tossed back into society without a job and with little opportunity of securing employment with recommendations. Definite sentence parolees now receive the close after-care and supervision given to persons serving indeterminate sentences when they are released upon parole.

Under the present after-care given in Illinois no person goes upon parole until a suitable job has been obtained. Every sponsor is carefully investigated by the parole department to ascertain if he is a fit and proper person to act as sponsor for a parolee.

LIBERTY DEPENDS UPON UNDERSTANDING PAROLE CONDITIONS

Since July 1, 1917, a parole supervisor at Joliet, Chester and Pontiac gives careful instructions to the paroled prisoner relative to what his conduct must be and what is expected of him while upon parole. For many years prior thereto persons left the penal institutions of Illinois, their future liberty depending upon their observance of the parole conditions, without knowing or understanding those conditions. It is little wonder; in their ignorance and in the absence of instruction, that many failed, became violators and were returned. It costs the State approximately \$250 a year to keep a prisoner. Violators serve from

three to five years upon an average. It is far cheaper and the public welfare is far better served by the employment of officers, trained and equipped to aid prisoners in returning to civil life. Other states are yet suffering the laxity that prevailed in Illinois for more than twenty years. Likewise the Federal parole, at this time, furnishes no instruction to the paroled prisoner as to what his or her conduct must be while upon parole.

INDETERMINATE AND DEFINITE SENTENCE

Human ingenuity has presented in later years but two forms of commitment of prisoners—the indeterminate and the definite sentence. The indeterminate sentence succeeded the definite sentence in Illinois July 1, 1895. Since that time practically all the states have adopted the indeterminate sentence. At the last two sessions of the American Prison Association, the Illinois Parole Law, as revised in 1919, has been characterized as the best parole law in operation in any of the states.

Under the definite sentence, when juries fixed the punishment, the average time served for all crimes, except murder, ran from one to two years. Prosecuting attorneys in the various counties did not have the facilities to ascertain whether the accused had served prior terms. In addition a prisoner's record could not be given to the jury unless the accused went upon the witness stand in his own defense. Consequently the second and third termers fared the same, at the hands of the jury, as the first offender.

Under the indeterminate sentence the State paroling authorities, while the prisoner is serving the minimum of his sentence, (and no minimum is less than a year), have the opportunity of ascertaining the former record of convictions, not only in Illinois but in other states as well. As a result the repeated offenders, with prior records of one or two or more terms in Illinois or other states, are serving the long sentences, as the work is done by the present Divisions of Pardons and Paroles. During the last five years of the definite sentence—1890 to 1894 inclusive—juries gave the maximum in seventeen commitments to the Joliet prison for the crimes of burglary, larceny and robbery. For the same crimes at Joliet the paroling authorities have passed 490 cases to the maximum since 1895, an average of 98 cases for each five years as against 17 by the juries. During the past five years 162 cases have been passed to the maximum, the average time being 8 years, 2 months and 6 days.

The following table compares the average time served by prisoners at Joliet during the last five years of the definite sentence (1890 to 1894 inclusive) with the past five years under indeterminate sentence (1916 to 1920 inclusive):

	Average for 5 years definite sentence—1890 to 1894.				Average for 5 years indeterminate sentence—1916 to 1920.			
	Number discharged.	Years.	Months.	Days.	Number discharged.	Years.	Months.	Days.
Burglary.....	1,483	1	7	21	479	2	7	8
Larceny.....	776	1	4	14	363	2	-----	18
Robbery.....	286	1	9	6	260	2	10	1
Average for above cases....	2,545	1	6	28	1,102	2	6	4
Second term inmates.....	392	2	-----	27	172	3	10	21
Third or more terms.....	131	2	6	20	53	4	11	7

For the five years 1890 to 1894, inclusive, under the definite sentence law, only 17 inmates were received with the maximum sentence for such crimes as burglary, larceny, robbery, etc., and the average time they served was 6 years, 7 months and 18 days.

For the five years 1916 to 1920, inclusive, under the indeterminate sentence law, 162 inmates were passed to the maximum by the Division of Pardons and Paroles for such crimes as burglary, larceny, robbery, etc., the average time being 8 years, 2 months and 6 days. In addition four cases of one year to life were passed to the maximum.

UNIFORMITY OF STATISTICAL RECORDS PRODUCES PAROLE DATA

Prior to July 1, 1917, practically no effort was made to keep uniform records in the penal institutions from which statistical data could be obtained covering more than individual institutions. The Civil Administrative Code, placing the penal institutions in the Department of Public Welfare, made it possible for the first time to establish at Joliet, Chester and Pontiac a uniform system of books and records.

The following table, covering the biennium, showing the number paroled from the two penal institutions and the reformatory, the number discharged, the number remaining upon parole, the number returned for violation, the number sent to prisons in other states, returned under new sentences, died while on parole, defaulters at large subject to return, returned to foreign countries, and those who returned voluntarily, furnishes an interesting study in parole statistics:

	Joliet.		Chester.		Pontiac.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Served parole and given final discharge.	222	35.92	171	35.77	290	40.12
Reporting on September 30, 1920.....	243	39.32	233	48.75	275	38.04
Returned for violation of parole agreement.....	46	7.45	14	2.92	56	7.73
Defaulters at large subject to return....	72	11.65	51	10.67	47	6.50
Returned under new sentences.....	6	.97	1	.21	8	1.11
Sent to prisons in other states.....	7	1.13	2	.42	32	4.43
Died while on parole.....	6	.97	4	.84	8	1.11
Returned to foreign countries.....	16	2.59	2	.42	-----	-----
Returned voluntarily.....	-----	-----	-----	-----	7	.97
Total paroled during two years ending September 30, 1920.....	618	100.00	478	100.00	723	100.00

Out of 1,819 prisoners paroled from the two penitentiaries and the reformatory, a total of 116 or 6.36 per cent have been returned, during the biennium, for violations of parole.

Out of a total of 1,819 prisoners paroled from the two penitentiaries and the reformatory, a total of 172 have defaulted and are at large, subject to return. This is 9.45 per cent of the total number paroled who have technically failed during the biennium. These have not committed crimes, either in Illinois or elsewhere, or the Bertillion and finger print systems would have revealed their whereabouts to the institution at which they are wanted as parole violators.

Of the total number paroled from the two penitentiaries and the reformatory, during the biennium, 18 or .98 per cent died.

Out of the total number paroled during the biennium, from the three institutions, a total of 15 or .82 per cent were returned under new sentences for crimes committed while upon parole.

The record of paroles, prior to September 30, 1918, shows the following:

Joliet—Total number paroled 8,933, of which 15.69 per cent were returned for violation of the parole agreement and 14.86 per cent are defaulters at large.

Chester—Total number paroled 7,042, of which 9.06 per cent were returned for violation of the parole agreement and 14.24 per cent are defaulters at large.

Pontiac—Total number paroled 9,521, of which 12.85 per cent were returned for violation of the parole agreement and 10.87 per cent are defaulters at large.

STATISTICAL COMPARISONS

The following statistical tables give a comparison of the 23 year record, 1895 to 1918, with the biennium from September, 1916 to September, 1918, and the biennium from September, 1918 to September, 1920:

TWENTY-THREE YEARS RECORDS—1895 TO SEPTEMBER 30, 1918.

	Paroled.	Violated.	Defaulters at large.	Returned new sentence.
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
Joliet.....	8,933	15.69	14.86	2.67
Chester.....	7,042	9.06	14.24	1.56
Pontiac.....	9,521	12.85	10.87	1.77
Total.....	25,496	-----	-----	-----

TWO YEAR RECORDS—SEPTEMBER 30, 1916 TO SEPTEMBER 30, 1918.

	Paroled.	Violated.	Defaulters at large.	Returned new sentence.
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
Joliet.....	1,116	7.29	10.04	1.21
Chester.....	1,069	3.93	4.71	1.00
Pontiac.....	1,230	7.07	3.90	.97
Total.....	3,465			

TWO YEAR RECORDS—SEPTEMBER 30, 1918 TO SEPTEMBER 30, 1920.

	Paroled.	Violated.	Defaulters at large.	Returned new sentence.
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
Joliet.....	618	7.45	11.65	.97
Chester.....	478	2.92	10.67	.21
Pontiac.....	723	7.73	6.50	1.11
Total.....	1,819			

The record of paroles, for the biennium, September 30, 1918, to September 30, 1920, shows the following:

Joliet—Total number paroled 618, of which 7.45 per cent were returned for violation of the parole agreement and 11.65 per cent are defaulters at large.

Chester—Total number paroled 478, of which 2.92 per cent were returned for violation of the parole agreement and 10.67 per cent are defaulters at large.

Pontiac—Total number paroled 723, of which 7.73 per cent were returned for violation of the parole agreement and 6.50 per cent are defaulters at large.

Joliet—From the time the parole law went into effect, July 1, 1895, up to September 30, 1918, the total failures at Joliet, including those returned for violations and defaulters at large subject to return, were 30.55 per cent of the total number paroled. The record for the biennium from September 30, 1918, to September 30, 1920, at Joliet, shows that 19.10 per cent of the total number paroled have failed.

Chester—From the time the parole law went into effect, July 1, 1895, up to September 30, 1918, the total failures at Chester, including those returned for violations and defaulters at large subject to return, were 23.30 per cent of the total number paroled. The record for the biennium from September 30, 1918, to September 30, 1920, at Chester, shows that 14.01 per cent of the total number paroled have failed.

Pontiac—From December, 1893, when the State Reform School was changed to the Illinois State Reformatory the total number of failures, including those returned for violation of parole and defaulters at large

subject to return, was 23.72 per cent of the total number paroled prior to September 30, 1918. The record for the biennium, from September 30, 1918, to September 30, 1920, shows that 14.23 per cent of the total number paroled have failed.

From these figures it may be readily ascertained that the record of the biennium is one of achievement and betterment over the total record for the 23 years preceding the biennium. At each institution the number of defaulters at large has been greatly reduced as has also the number returned for violation of parole.

The following table shows the average length of time served by first or more term convicts who constitute the 618 released upon parole from Joliet during the biennium:

Term served.	Number.	Average time served.		
		Years.	Months.	Days.
First term convicts.....	447	2	7	26
Second term convicts.....	85	3	4	27
Third term convicts.....	20	4	7	23
Fourth term convicts.....	4	5	2	12
Fifth term convicts.....	1	4	3	24
Returned and reparaol.....	61	3	11	29
Total.....	618			

NOTE.—The average time served under Definite Sentence Law for all convicts discharged during the year ending June 30, 1895 was one year, seven months and eleven days. In addition to the time served under the indeterminate sentence the prisoner must do at least one year upon parole and in many cases he is required to do two, three or four years upon parole.

The following table shows the number of first and more term convicts received at Joliet during the last five years and the per cent of each to the total number received:

	1916	1917	1918	1919	1920	Total.	Per cent.
Average daily count.....	1,748	1,704	1,656	1,398	1,565		
First term convicts.....	451	455	410	382	484	2,182	88.24
Second term convicts.....	41	47	40	52	35	215	8.70
Third term convicts.....	13	12	8	7	13	53	2.15
Fourth term convicts.....	5	3	1	2	3	14	.57
Fifth term convicts.....	4		1	2		7	.25
Sixth term convicts.....	1		1			2	.09
Total.....	515	517	461	445	535	2,473	100.00

The following table of recommitments to Joliet reveals how the number of repeaters has gradually decreased since the parole law went into effect in July, 1895:

Recommitments.	Second.	Third.	Fourth.	Fifth.	Sixth.	Total.	Per cent.
From July 1, 1894, to June 30, 1895.....	113	36	13	5	2	169	17.58
Total number convicts received.....						961	
Daily count.....						1,677	
From October 1, 1916, to September 30, 1917.....	47	12	3			62	12.00
Total number convicts received.....						517	
Daily count.....						1,616	
From October 1, 1917, to September 30, 1918.....	40	8	1	1	1	51	11.06
Total number convicts received.....						461	
Daily count.....						1,350	
From October 1, 1918, to September 30, 1919.....	52	7	2	2		63	14.16
Total number convicts received.....						445	
Daily count.....						1,454	
From October 1, 1919, to September 30, 1920.....	35	13	3			51	9.53
Total number convicts received.....						535	
Daily count.....						1,601	

During the year ending September 30, 1920, a total of 535 convicts were received at Joliet as against 961 received there in the year ending June 30, 1895, which was the last year of the definite sentence law. Twenty-five years ago 426 more prisoners were received in Joliet in one year than were received there last year.

CHICAGO OFFICE OF THE PAROLE DEPARTMENT

After-care and close supervision while upon parole has produced an exceptional record in the Chicago office of the parole department. During the biennium there was a period of 8 months in which no parolee from the Pontiac Reformatory was arrested in Chicago. During 9 months no parolee from Joliet was arrested in Chicago and for 18 months no parolee from Chester was arrested in Chicago. To one who reads the Chicago newspapers this record seems unbelievable, but it is correct nevertheless.

An assistant chief parole agent, five other parole agents and five sergeants of police, assigned by the police department of the city of Chicago, now work out of the Chicago office. In addition to supervising the persons upon parole in Chicago, securing employment for them, transferring from one employer to another and doing the other routine work incident to after-care while upon parole, daily visits are made by the parole agents in the Chicago office to the Bureau of Identification, Detective Bureau, county jail, State's attorney's office and the various courts.

Summarized, the work of the Chicago office during the biennium is told in the following:

	Chester, Joliet.	Pontiac.
Received on parole.....	300	332
Discharged from parole.....	240	177
Returned for violation of parole.....	18	19
Returned on new sentence.....	7	8
Wanted for violation of parole.....	37	18
Died while on parole.....	4	1
Positions obtained.....	770	509
Transfers made.....	458	278
Visits made by this district.....	4,986	3,840
Special investigations made.....	324	37
Arrested and returned from this district as escapes.....	23	1
Placed in hospitals and various institutions for medical attention.....	45	12
Homes provided while on parole.....	33	15
Number of men handled on writs from all institutions.....		26
Number of men handled attending funerals of relatives from all institutions.....		18
Number of statements obtained from court, etc.....		435
Number of court trials attended by officers.....		67

THE PAROLE ORGANIZATION

In order to facilitate the work of handling 1,819 persons upon parole, who are scattered from one end of Illinois to the other, the State has been divided into 10 parole districts, with a headquarters in each as follows:

First district, Chicago; second, Joliet; third, Rock Island; fourth, Pontiac; fifth, Lewistown; sixth, Paris; seventh, Springfield; eighth, East St. Louis; ninth, Mt. Vernon; and tenth, McLeansboro.

With specified counties comprising each district, a parole agent works from the headquarters in each district. The agent is in close communication with a parole supervisor at Joliet, Chester and Pontiac. At the individual institutions the parole supervisor handles the parole business from that institution and gives directions to the agents in the ten parole districts. Each night, when he concludes his work, the agent makes a pencil report and mails it to the parole supervisor covering the number of men upon parole he has visited that day. In addition the agent makes a monthly report to each of the three institutions, covering the work with the men upon parole in his district from that particular institution.

In each district the parole agent handles all persons upon parole in that district from the three institutions. In this way his time is not occupied and taken up with travel from one end of the State to another, as it was under the system in vogue prior to the reorganization of the parole department, made possible by the adoption of the Civil Administrative Code.

No person is released upon parole until a sponsor and employment has been obtained for him. It is the duty of the parole agent to investigate the sponsor and ascertain whether he is a fit and proper person to take another person upon parole.

In order that the agent may have as full and complete an understanding as possible of the character of the parolee, he is furnished a card index covering the commitment and all other information which it is possible to put upon an index card to aid the agent in an intelligent supervision of the individual parolee. It is not infrequent that persons of low mentality must be released upon parole. In instances of this character the parole agent is furnished with a duplicate copy of the report made by the mental health officer at the institution from which the man was paroled. This report sets out all the peculiar traits of character it has been possible for the mental health officer to discover in the parolee. It frequently advises the parole agent what he may expect from the parolee. With this advice the agent is enabled to guard against the particular trouble that originally caused the man to commit crime.

It is the duty of all parole agents, when visiting the county seats in the various counties, to call upon the state's attorney, circuit judges, police departments, and other public officials, and to advise with them relative to the men upon parole in that locality.

The Illinois plan for after-care and supervision of its prisoners upon parole has attracted the attention of officials in other states, many of whom are putting like systems into operation.

CONFUSING THE TERMS "PROBATION" AND "PAROLE" WORKS DESTRUCTION

Despite every effort the members of the Division of Pardons and Paroles have been able to put forth, our work continues to suffer by reason of confusing the terms "probation" and "parole." A glaring example of this has just occurred. Two boys, who were upon probation, appeared before Judge Landis, in the Federal Court in Chicago, charged with crimes committed while upon probation from a court. Judge Landis publicly criticized the system under which they had been released. The headlines in one of the great daily newspapers of Chicago said:

"Landis Assails Parole Law As He Sentences Two."

Neither of the boys had served in a penal institution. The headline did damage to the work which the members of the Division of Pardons and Paroles has attempted to do honestly, conscientiously and to the best of its ability. Writing to Governor Lowden, under date of November 29, 1920, Judge Landis said, among other things, concerning the newspaper stories:

I have not condemned the Illinois Parole Law, nor its administration by the board, since the Illinois Parole Board quit turning loose professional burglars several years ago.

I should like Mr. Christy and Mr. Colvin to know that the odium for these outrages belong to my judicial brethren.

In another letter, under date of December 8, 1920, addressed to Honorable Clarence F. Buck, of Monmouth, Judge Landis expresses the opinion that:

The working of the State Parole Board is better today than it ever was before, according to my observation.

The ordinary newspaper reporter knows nothing about the problems of parole as they relate to the public welfare and cares nothing about them. The efforts of conscientious men who have devoted many years of their lives to a close study of handling criminals can be destroyed by an irresponsible reporter and there is no recourse. Four years of unsuccessful effort to escape from the harm that results from confusion of the term "probation" and "parole" makes me wonder whether it is worth while to continue the battle.

In its bulletin of January, 1920, the Committee on Punishment and Parole of the Chicago Crime Commission, specifically calls attention to the fact that "Parole is many times quoted when the term probation should be used." The text of the report by the Committee on Punishment and Parole is as follows:

Your Committee on Punishment and Parole reports that at various times members of this committee, in company with the operating director, have attended meetings of the Division of Pardons and Paroles at Springfield and Joliet, and that the operating director alone was instructed to attend a session at Menard. The hearing of the Earl Dear case was attended by the operating director as the representative of the Chicago Crime Commission. The applications for pardons or commutation of sentence in the cases of two murderers serving life sentences and two rapists serving fourteen year sentences were opposed formally by the vice-chairman and operating director on November 19, 1919. These cases, all of them with records of the greatest brutality, were being urged for favorable consideration by the friends of the prisoners and entirely ignored by representatives of prosecuting authorities. The commission, because of its information concerning these cases, was enabled to present illuminating data for consideration of the Division of Pardons and Paroles, with the result that recommendations were made to the Governor that the petitions be not granted, recommendations in which the Executive concurred.

It is the belief of this committee that the present personnel of the division is beyond reproach and that their decisions are made after the gravest deliberation and for the best interests of society. That much of the condemnation applied to the parole system is unjust and is confused with the term "probation." Paroles are granted only after a man has served his minimum sentence; whereas, probation is an act within the discretion of the court and was designed to protect the chance or first offender from the degradation of the felon's stripe. As it is now applied it is a farce. Men with criminal records, gunmen and old offenders are the beneficiaries of this law. Probation is not within the scope of this committee, rightfully coming under the observation of the Committee on Courts and is merely mentioned to differentiate as between probation and parole in order that it may be understood that parole is many times quoted when the term "probation" should be used.

So long as newspapers, judges, state's attorneys, public officials, court attaches, police officers, and persons generally use the term parole when probation is meant, there can only be an endless chain of confusion working in the public mind to the destruction of that good that is in the parole law.

ACTION ON PARDON APPLICATIONS

During the biennium the Division of Pardons and Paroles acted upon 404 applications for pardon or commutation of sentence. Of this number, pardon or commutation was denied by the Governor, upon the recommendation of the division, in 313 cases.

Upon the recommendation of the division, Governor Lowden granted executive clemency in 91 cases. Of these, 3 were commuted from the death penalty to life imprisonment; 41 were from the houses of correction; 18 were from Joliet; 16 were from Chester; 9 were from Pontiac; and 4 from county jails.

SIXTY-SEVEN NEW STATE'S ATTORNEYS

For many years under the policy of the former Board of Pardons cooperation of judges and state's attorneys was not sought. Four years ago this policy was changed. The fullest cooperation between the committing authorities in the various counties and the State paroling authorities has produced an intelligent handling of the problems in which all public officials are equally interested. Betterments have been made possible of accomplishment.

In the election at the close of this biennial period new state's attorneys came into office in sixty-seven of the 102 counties of Illinois. Every effort will be made, in the interest of public welfare, to continue the cooperation with the newly elected officers.

INVITING THE THIEVES AND CRIMINALS OF THE WORLD TO CHICAGO

Seven years of close study of the pardon and parole work of Illinois has given the Superintendent of the Division of Pardons and Paroles some convictions relative to the causes which enable crime to flourish in the great city of Chicago. With no desire to criticize any public official I cannot refrain from expressing the opinion that the policy which controlled the State's attorney's office during Mr. Hoyne's latter term---that of giving immunity to men already convicted of crime in return for testimony which convicted other persons---is to a very large degree responsible for crime conditions as they exist at this time in Chicago.

There is not one person in a thousand who, after conviction, would not avail himself of the opportunity to escape punishment by convicting another, if he was capable of telling a story upon another which would convict the other person.

The perniciousness of such a policy in any State's attorney's office does not at once become apparent. It has taken four years of such a policy to reveal fully the terrible results.

Police officers have traded places in the Joliet Penitentiary with professional burglars and thieves under the system. While spending a year in the penitentiary the members of the so-called "Million Dollar Burglary Trust" framed the stories which took them out and put the police officer, who had caused their conviction, in their place.

When the members of the "Million Dollar Burglary Trust" came out of the penitentiary they at once resumed operations upon a larger and grander scale than before. Police officers may deny the assertion, but it is true, nevertheless, that the members of the "Burglary Trust" committed burglary after burglary, while officers who knew of their crimes feared to arrest them, because of the threat made with impunity, that "if you bother me I'll tell the State's attorney that I've been paying you graft." That was sufficient. The officer closed his eyes, turned his back and went the other way.

Chicago now is reaping the consequences. Thieves and criminals see and realize what an opportunity like this means to them sooner than anyone else. In effect the policy became an invitation to the criminals of the world to gather in Chicago. It will take a long, hard fight to drive them out.

Everyone realizes that there are dishonest men in every walk of life. There will always be some dishonest men in every large police department. Probably no human agency will ever change that condition. But that does not mean that the great bulk of a large police department are dishonest men.

The public suffers from dishonest police officers but it suffers to a far greater extent when a condition arises under which great numbers of honest officers become afraid to do their full duty in the arrest, prosecution and conviction of criminals.

Mr. Hoyne's policy of taking the criminals out and putting police officers in their places, together with the bond evil, as it exists at this time, are, in the opinion of the Superintendent of the Division of Pardons and Paroles, the predominant causes of Chicago crime. In an interview, since his election to the office of State's attorney, Judge Crowe called attention to the fact that 4,000 people in Chicago are at large upon bond at this time.

ELGIN STATE HOSPITAL

RALPH T. HINTON, M. D., *Managing Officer*

I submit herewith the twenty-sixth biennial report of the Elgin State Hospital. This report is for the period ending June 30, 1920.

At the close of the last biennium there were present in the hospital 2,083 patients; at the present time we have a population of 2,138, a gain of 55. One hundred nine are on parole and 30 on escape.

During the biennium 1,003 male and 739 female patients were admitted to the hospital. Seven hundred and thirty-one were discharged, 209 transferred to other institutions and 22 released on writs of *habeas corpus*. Of those discharged 25.8 per cent were restored, 46.6 per cent discharged as improved and 27.6 per cent discharged as stationary.

A study of the psychoses of the patients admitted reveals practically the same statistics as submitted in our last biennial report. Analysis shows that of the male patients admitted 16.5 per cent were paralytics; that dementia praecox was represented in 34 per cent of the male cases and in 36 per cent of the female; and that manic depressive insanity occurred among 12 per cent of the female and in 6 per cent of the male patients.

During the biennium 510 deaths occurred among the patients. Of this number 29 per cent was due to general paralysis of the insane.

Reference was made two years ago to the fact that the hospital was overcrowded. This condition still exists. On many wards the dormitories for patients do not have the required amount of floor space, day rooms have been appropriated for dormitories and as a consequence our patients are deprived of the many little comforts which add so much to their institution life.

GENERAL HEALTH

For the most part the general health of the patients committed to our care has been good. The influenza epidemic of 1918 is now a matter of history. The first case occurred in the hospital during the latter part of September of that year and the epidemic continued until November 19. Rigid quarantine was established October 1 and from that time was maintained until the last patient was discharged on November 19. During this period general visitation of patients was prohibited, all amusements were suspended, suspected cases isolated and pneumonia patients segregated from those suffering from influenza. Employees

residing away from the hospital grounds were examined daily, the nose and throats of all contacts sprayed daily and facial masks were worn by both patients and employees. During the epidemic 304 cases of influenza developed among the patients and 91 among the employees. Seventy-eight cases of pneumonia occurred among the patients and six among the employees. Twenty-four of these cases terminated fatally among the patients and two employees succumbed to the disease. One of the early lessons learned from the epidemic was that a subsidence of influenzal symptoms should not warrant the patient's leaving his bed. I am of the opinion that many of our pneumonia cases resulted from this cause.

In January, 1920, we were visited by a second epidemic of influenza. The first case appeared on January 16 and strict quarantine was established four days later. This epidemic was of shorter duration and not so severe in character. From January 16 to February 14, 98 cases developed among the patients and 25 among employees. Twelve patients died from pneumonia. Two cases of epidemic cerebro-spinal meningitis developed among the employees. The first occurred in a young woman and after several weeks she recovered. The second occurred in a young man a month later and was fulminating in character. Death occurred on the fourth day. It was impossible to trace the source of infection in either case. A technician from the laboratory of the State Department of Health was unable to find a suspected carrier. A representative from the Durand Institute made cultures from all suspected contacts and found the meningococcus present in those taken from six employees and four patients. The suspected carriers were placed in strict isolation and released only after the third culture had proven negative.

MEDICAL WORK

Reference was made in the last biennial report to the fact that there had been established what was known as an efficiency system in the medical service. After two years further use of the system I can repeat only what was said at that time. It is the only system, so far as I know, which contemplates and does result in the examination of all patients. Not only are examinations made but findings are recorded. Investigations are made at certain definite periods; there is, in no way, any guess work. At the present writing all records of patients in the hospital have been resummarized and diagnoses revised. In addition, 23,757 progress notes have been made. In this connection it might not be amiss to mention the record of one patient. This man was transferred from the Jacksonville State Hospital and was admitted to this hospital July 2, 1872. He is now 83 years of age and has been continuously employed at the power plant for 43 years.

A number of interesting surgical operations have been performed during the biennium. Dr. McKelvey did a great deal of the work; some

was done by surgeons of Elgin and some by members of the hospital staff. The list is as follows:

Mastoid	3	Ventral hernia	1
Litigation of tubes.....	2	Finger amputation	2
Goutre	2	Hysterectomy	2
Lipoma	1	Ventral fixation of uterus.....	5
Removing needle from bone.....	1	Appendectomies	14
Ankylosis of wrist.....	1	Ovarian cysts	2
Tonsilectomies	32	Gall bladder drainage.....	1
Laparotomies (exploratory).....	2	Herniotomies	11
Salpingitis	4	Perineal repairs	3

During the past year the patients on the various wards of the hospital have been regrouped. The inauguration of a department of occupational therapy made such a procedure a necessity. In the reclassification the following scheme was employed:

Diagnostic.	Occupational Therapy, Care for Self
Hospital.	(Not irritable).
Infirmery (Tidy).	Occupational Therapy Habit Training
Infirmery (Untidy).	(Irritable).
Acute Mental (Quiet).	Occupational Therapy Habit Training
Acute Mental (Restless).	(Not irritable).
Acute Mental, Occupational Therapy	Vocational Training (Care for Self).
(Restless).	Vocational Training (Supervision).
Acute Mental, Occupational Therapy	Industrial Care for Self (Irritable).
(Quiet).	Industrial Care for Self (Not irritable).
Occupational Therapy, Care for Self	Industrial Supervision (Irritable).
(Irritable).	Industrial Supervision (Not irritable).

The reclassification has resulted in the opening of two additional wards for parole male patients and has made possible the closer supervision for the reeducational groups. The habit training and other classes of this department are thus maintained in certain definite departments of the hospital and not scattered as heretofore.

Two years ago the noon-day business staff meeting was abolished. These meetings, however, have been revived to some extent. It has been found advisable to hold one or two such meetings each week. In this way it is possible for me to come into closer contact with the various medical activities of the hospital and at the same time the various problems which confront the members of the staff may be discussed.

The hospital continues to employ a resident dentist. Dr. Sullivan submits the following report pertaining to the work of his office:

Examinations	7,679	Gold fillings	16
Treatments (all kinds).....	1,067	Cleanings	836
Extractions	1,458	Plates	81
Amalgam fillings	1,248	Crowns (all kinds).....	110
Cement fillings	282	Fractured jaws treated.....	4
Synthetic porcelain	194		

In addition to the above, I have made many bridges, repaired plates, crowns and bridges, treated several cases of Vincent's infection and taken more than a hundred X-ray pictures.

SOCIAL SERVICE

A social service department was established September 30, 1918. A chief social service worker was placed in charge but it was not until May 25, 1920, that an assistant was appointed. The work of the department divides itself in the following classes:

1. *Case Histories.* These are obtained when the relatives of the patients fail to visit the hospital or when there is some doubt as to certain aspects of the history already given. Again, some patients are

apprehended by the officers of the law and no record of relatives or friends is obtainable. The Social Service Department is able to assist in the clearing up of these cases. For example, one patient had been in the hospital two or three months before anything concerning his family could be ascertained. It was then learned that the patient had left his home for a stroll and had never returned. Relatives had made a vain search for him and he was finally given up as dead.

2. *Interval Histories.* Outside resources are consulted to ascertain whether or not there has been a recurring attack or if the present condition of the patient is a further development of his previous psychosis.

3. *Paroled Patients.* The supervision given to patients on parole has been of material assistance. Often patients, though not recovered, have improved to such an extent that they can live to advantage outside of the hospital if the environment is favorable. It is the province of the department to investigate home conditions, advise relatives and friends as to the care of the patient and to make suggestions from time to time, both to the patient and his friends, as to the best conditions for his welfare.

4. *Escaped Patients.* It has been the duty of the department to assist in the location and return of escaped patients. When this has not been possible the proper authorities have been notified, a description of the patient given and other assistance rendered which might lead to apprehension and return.

5. *Assistance to Patient in the Hospital.* This field of activity has not been fully developed owing to the lack of a sufficient number of workers. However, a number of visits have been made for patients and things done for them which have resulted in the elimination of unnecessary worry. In some cases the department has been instrumental in the appointment of conservators to look after the property of the patient under court direction. In all cases of *habeas corpus* the department has been represented in court.

During the summer of 1920 a number of students were assigned to the department for practical training. Considerable effort has also been expended in trying to arrange for clinics in cities adjacent to the hospital. It is hoped that by the establishment of such clinics where former patients, as well as others who are in need of expert services, might receive advice, much could be done for the individual and the necessity for commitment alleviated.

A comparison of the number of patients now on parole with the record of two years ago shows very little change. It had been hoped that the establishment of a social service department, affording a more effective supervision, might result in more patients leaving the hospital to be cared for in the community from which they were committed. This, however, has not proven to be the case. I am confident, neverthe-

less, that many who have been in the hospital for years could not have been released had it not been for the supervision afforded by the department; and the fact that they have made good is due directly to the personal contact that has been afforded. There is no question but that this department has assisted materially in the solving of many problems and has aided in rendering more humane and intelligent care to our patients.

DEPARTMENT OF REEDUCATION

The Department of Occupational Therapy, established in March, 1918, is still in operation. A consideration of the activities of this department and the results obtained permit us at this time to form some conclusions as regard the benefits to be derived from the organization of such a department in a hospital for the insane.

During the two years just passed 1,498 patients have been reached by the department. On the habit training wards 266 have received instructions in the classes formed. Of this number 74 have been promoted to better wards, 12 are engaged in the industries of the hospital and 19 have been paroled home. Among the other classes 183 have been promoted to some hospital industry and 88 have been paroled and discharged.

During the biennium, in addition to the superintendent of the department, four occupational therapists have been employed. Three of these devote their time to the teaching of handwork and one to physical training. Nine charge attendants have been assigned to the department and are in charge of the various classes. From July, 1918, to August, 1919, 53 pupils from the Favill School were assigned to the hospital for their practice training. Of this number 41 entered the service of the Federal Government and were assigned to the various Army cantonments.

Activities at the present time are carried out on the wards, occupational centers and in outdoor games and sports. Bed occupations have been introduced to a very limited extent. The work on the wards consists principally of paper work, string work, wood work, and the like. At the occupational center more advanced work in the way of basketry weaving, etc., is indulged in.

The interest in outdoor games and sports is noticeable. Baseball, especially, is popular. The team is fully equipped with uniforms and all necessary paraphernalia. Games are played by the patients nearly every day, either among themselves with employees, or with teams from the city. The punching bag, quoits, horizontal bars, and the like, are always popular. One of the most striking feats of all, however, is the ability of the physical director to arouse the apparently hopeless, indifferent, stupid patient to participate in simple exercises and games.

Occupation, in order to be of any value to the patient, must have a certain amount of variety and changes must be made from time to time. This, we have attempted to do. The classes among the non-irritable

group have short working periods and the monotony is broken by various diversions. Any occupation should not be and is not permitted to be followed to the point of fatigue. A great factor in this work and one of the things most frequently overlooked and neglected, is the failure, after arousing the interest of the patient, to impress sufficiently the usefulness of the work in question. This has been borne out on more than one occasion. Aimless work should be avoided as much as possible and the patient should be convinced of the use of the occupation.

In occupational work for reconstruction, as in all other educational work, evaluation through tests and individual and group practice effects are of prime importance. This is also true of cooperation of these insane subjects, as prerequisite to interest, just as in normal cases, which is best secured through study of and conformity to individual adaptation. In this way new habits may be established upon the foundation of the old, since interest may thereby be diverted into new and better channels of thought and action.

The necessity for the clothing, housing, care and comfort generally of mental dependencies always has been apparent, but these are not sufficient in the present social order, nor are the great standards of life met in this way. If creature comforts were all, if material interests alone are worthy of consideration, if man were made his brother's keeper in none but the physical sense, then it would be a simple problem indeed, in the present as in the past, to perform humanitarian duty in the administering of the requirements of mere existence to those less favored than ourselves.

Occupation is and has proven to be of therapeutic value and should be carried on. The monetary value of the work done is of minor importance and may be ignored. The patient's mental welfare should not be sacrificed—he should not be permitted to become so thoroughly “institutionalized” as in the past.

TRAINING SCHOOL FOR NURSES

Very little change has been made in the curriculum of the Training School for Nurses. The work has been along the same lines as heretofore. A two-years course of instruction, optional with those who have completed the required three-months course for attendants, is given.

The class of 1918 consisted of the following members:

Eve Atteberry.

Ruth Truebger.

Minnie Groneman.

Grace Fullerton.

Mabel Huff.

Jane Courtright.

Ida Calkin.

Mae Lenon.

But two nurses received their diplomas in 1919:

Leona Coker.

Myrtle Pearce.

Two pupil nurses, who would have been members of this class, died before they completed their course of study. Reference to them will be found in another part of this report.

The difficulties encountered, as mentioned two years ago, in obtaining a sufficient number of capable, efficient employees, continued throughout the biennium and it has only been in the past few months that the situation has become at all relieved. During the two years covered by this report 750 new attendants were employed and of this number 620 have left the service.

CHANGES IN THE MEDICAL STAFF

Dr. G. M. Lisor resigned August 7, 1918, to assume the superintendency of St. James Hospital, St. James, Minnesota.

Dr. O. C. Wise, was transferred to the Watertown State Hospital October 18, 1918.

Dr. Mary Senseman resigned March 10, 1919, to enter private practice.

Dr. Charles E. McPeck resigned September 4, 1918, to enter private practice.

Dr. Max Folk resigned May 8, 1919, to enter private practice.

Dr. Martha Folk resigned May 8, 1919, to enter private practice.

Dr. Phillip F. Gillette was appointed September 24, 1919.

Dr. Raymond F. Dowell left for military service on September 17, 1918; returned July 1, 1919.

Dr. James J. Walsh left for military service September 24, 1918; returned May 24, 1919.

Dr. James K. Pollock left for military service December 12, 1917; returned October 14, 1919.

Dr. Milton Jacobs was appointed October 11, 1918; resigned June 16, 1920, to enter private practice.

Dr. B. W. Abramson was appointed March 27, 1919; resigned May 20, 1919, to enter private practice.

Dr. Ernest Erstling was transferred from the Anna State Hospital on June 1, 1919.

Dr. Marcus O. Kagy was appointed July 10, 1919, and transferred to the Chicago State Hospital December 17, 1919.

DEATHS OF EMPLOYEES

Frank C. Moore entered the services of the hospital as an attendant on November 17, 1920. Later he was promoted to storekeeper, in which capacity he rendered faithful service until the time of his death. Mr. Moore contracted influenza during the epidemic of 1918 and died from pneumonia on October 19, 1918.

Jesse L. Pierson, chief engineer, entered the service of this hospital as electrician on October 14, 1908. He was promoted to the rank of chief engineer in February, 1912, and died June 10, 1919. Ten days previous to his death he and Van G. Wyrick, who was later killed during the tornado that swept Elgin on March 28 last, were working in a tunnel just outside of the boiler room. A reducing valve on a high pressure steam line gave way and on account of the position he occupied in the tunnel, Mr. Pierson was unable to make his immediate escape. He was severely burned and succumbed to his injuries ten days later. By his death the hospital lost the services of a most capable and efficient employee.

Van G. Wyrick, engineer, entered the service March 22, 1919, and was killed during the tornado on March 28, 1920. He and his family resided in a small cottage just back of the hospital. The cottage was demolished during the storm and Mr. Wyrick was killed instantly.

Russell Thomas, attendant, entered the employ of the hospital December 6, 1919. He was here but a short time when he contracted cerebro-spinal meningitis. The disease was fulminating in character and he succumbed four days later. His death occurred on December 25, 1919.

Laura Fort, attendant, entered the service February 16, 1917, and died October 24, 1919. She, too, contracted pneumonia following influenza. Miss Fort was a member of the training class for nurses and would have graduated within a very short time.

Blanche McNeill, attendant, entered the service April 23, 1917, and died September 4, 1919. She became ill in April and returned to her home in the city of Aurora, where she died. She was also a member of the training class for nurses and would have graduated had her illness not prevented it.

POWER PLANT

In the report submitted on June 30, 1918, reference was made to the undesirable condition of the new power plant then in operation. Since that time various changes and adjustments have been made, and, as a result, it is now my pleasure to report a marked change for the better. During the past year or more the boilers and, in fact, all the equipment of the power plant, have been operated in a most efficient manner. Coal and water meters have been installed and it is now possible to receive each day a report showing the consumption of coal and the proportionate amount of water evaporated. Reports will show that during the past twelve months there has been a decrease in the consumption of coal amounting to approximately 3,000 tons per year. This increase in efficiency and the decrease in the amount of coal consumption cannot be attributed entirely to the changes that have been instituted in the boiler plant, although these have materially aided. The abolishment of the kitchens at the male hospital, annex and psychopathic wards,

the replacement of old steam lines, and the installation of traps on the return lines of the buildings at the south end of the grounds must all be considered as contributing factors.

During the biennium a boiler was transferred from the Chicago State Hospital and installed. This addition gives us a total of 1,250 H. P.

A water softening plant, which has a capacity of 6,000 gallons per hour, was installed during the past summer and has contributed materially to the efficiency of the plant.

DISPOSITION OF SPECIAL APPROPRIATIONS

The installation of a modern water softening plant at a cost of \$4,000 has insured an adequate supply of soft water for the boilers. Connections will soon be made to supply the laundry with soft water.

An entire new switch track, complete with trolley poles and wires, has been constructed at a cost of approximately \$8,000. The road bed was prepared by experienced men and eight-pound rails were used. The work was all done by institution help, with the exception of the wiring.

One thousand dollars was appropriated for an additional well, but on account of the scarcity of labor the work has not as yet been started.

An appropriation of \$500 was also approved for pipe covering, but owing to the high price asked for this material it has not been purchased.

The construction work for the new hospital has not as yet been begun. Our patients will make approximately 15,000 blocks for the building, will do the excavating and will get out the necessary sand and gravel for the foundation, floors, etc.

RECOMMENDATIONS

Previous reports submitted have emphasized the overcrowded condition of the hospital. The erection of the new hospital building, as well as certain alterations which have been proposed, will relieve this condition to some extent. Our admission rate is and will probably continue to be high. It is, however, not advisable to enlarge the hospital materially, inasmuch as this would mean additional changes to the power plant, laundry and other service buildings. I am of the opinion that the best thing to consider for the relief of the situation is the purchase of land adjacent to the hospital and the establishment thereon of a large farm colony. Agricultural activities have proven to be of value for the welfare of the patient as well as from the standpoint of economical administration.

The amusement hall at the main building can accommodate at the most a little less than four hundred patients. A hospital with a population such as ours, should have a hall of a capacity of at least twelve hundred. When it is considered that the hospital is the home of our patients for months and even years, that but a small proportion can

attend the amusements afforded, that institution life at best is monotonous, the granting of this request should receive serious consideration.

In another portion of this report reference has been made to the benefits derived from occupation. To extend the work of this department and to afford a centralization of many of our activities, a building for this purpose with a floor space of from ten to twelve thousand feet, should be erected.

Reference has also been made to the frequent changes among officers and employees. The State must realize that these conditions are the result, in part, of inadequate quarters. Employees appreciate, in fact, demand suitable living conditions. It is recommended that the request for an addition to the nurses' home be granted.

KANKAKEE STATE HOSPITAL

EUGENE COHN, M. D., *Managing Officer*

I herewith submit to you the twenty-seventh biennial report of the Kankakee State Hospital covering the period between July 1, 1918, and June 30, 1920.

The movement of our patient population has not varied greatly from the preceding biennial period. Our daily enrollment shows in the neighborhood of 3,400 patients and the number of those actually present averages around 3,300.

We are pleased to report that the health of our people has been generally good. We have experienced no epidemics. We have recorded the usual number of deaths, which are to be expected in an institution of this size, containing at all times a rather large number of paretics and seniles.

I am grateful to the Department of Public Welfare for the loyal assistance given me at all times. I also wish to express my appreciation at this time to those officers and employees of the Kankakee State Hospital who by their faithful services have made possible whatever small degree of success we may have achieved during the last two years.

MEDICAL SERVICE

I am sorry to say that we lost a number of our medical officers by resignation, because they felt that private practice might offer them more profitable inducements; in consequence, we have added several new members to our medical staff.

The medical work of the hospital has been conducted in a competent and faithful manner, along lines prescribed by the Department of Public Welfare. Classification of patients and clinical records have been kept up to the best of our ability, in accordance with the rules and regulations of the State service.

A liberal amount of surgical work has been done, and practically every type of major operation has been performed. The results have been gratifying and the death rate very small, practically nil.

NURSING SERVICE

The nursing service has been organized in accordance with the requirements of the State Department of Registration, so that our graduates, by taking certain additional training in a general hospital,

may become eligible to register in the State. Though our classes are not large at the present moment, the outlook for the future is encouraging.

OCCUPATIONAL THERAPY

Our Occupational Therapy Department is gradually but surely developing into a very useful division.

Appreciating the value of occupational therapy, every facility is offered to the head of the department. We are now conducting some eight or nine class rooms and have an occupational center splendidly equipped for carrying out this work. An adequate number of assistants have been assigned to the head of this department, and I am pleased to report favorable progress.

INDUSTRIAL DEPARTMENTS

The various industries of the institution are offering, as heretofore, many opportunities to keep patients properly occupied, and a great deal of useful work is done by the patients. Much money is being saved the State by our rather elaborate system of utilizing old material for useful purposes. Our repair and remaking work on clothing, blankets, etc., is especially extensive and serves as a splendid means of keeping many patients occupied, and as a valuable economic factor.

AMUSEMENTS

We are striving to the best of our ability to supply our patients with a reasonable amount of amusements in the form of dances, shows, picnics, etc., firmly believing that amusements constitute an important part of their treatment and are, therefore, quite essential.

The institution believes in the most liberal policy in the care of the patients. The greatest possible freedom, consistent with good judgment and safety, is approved. Hundreds of patients are enjoying parole privileges of the grounds. Ten wards are conducted without attendants or nurses; patients under the supervision of carefully selected fellow patients conducting their own household. These wards are the most peaceful and best regulated patients' divisions of the institution. This system has been in vogue three years and has proven a perfect success.

Religious services are regularly conducted, as in previous years, and the Catholic, Protestant and Jewish services are represented by their clergy.

CEMETERY

The cemetery now used for the burial of deceased patients has been in existence some twelve or thirteen years. Unfortunately, especially the older part of this cemetery was not in the best condition. No permanent headstones or markers had been supplied for any of the graves. We made some seven hundred concrete headstones, neat in appearance, remounded and sodded all of the graves, made gravel paths and planted shrubs and flowers, giving the cemetery a worthy appearance.

DINING ROOMS

Since assuming the management of this hospital, I have striven diligently to abolish the uninviting basement dining rooms and substitute therefor light and sanitary ones. We have been fairly successful in this effort. By remodeling certain buildings, we now have established six light and airy dining rooms and hope to abolish the few remaining unsatisfactory ones within the near future.

TUBERCULOSIS COTTAGE

The old tuberculosis building, which was a wooden structure, has been remodeled into an attractive stucco building. Its capacity has been more than doubled. We now have eighty beds within this building taking care of our active tubercular cases of both sexes. The former capacity of the building was thirty-six beds. The old female tuberculosis department in the north infirmary has been abolished because of this change. The remodeled building is in every way modern and suitable for its special purpose.

HYDROTHERAPEUTIC WARDS

We are at present remodeling two of the first floor wing wards of the main building for hydrotherapeutic departments; \$20,000 was appropriated by the last legislature for this purpose. In spite of the structural difficulties met with in the remodeling of these particular wards, having to deal with much heavy supporting masonry, results are gratifying. We realize that our new hydrotherapeutic wards will be a credit and in every way suited for their purpose. The work on these wards is progressing nicely and we hope to be able to occupy them at an early date. When completed, we shall have room for some seventy patients, thirty-five of each sex, giving us an efficient division for the treatment of acute patients and making it possible to abolish the present unsatisfactory basement hydrotherapeutic departments.

I again recommend appropriations to build cottages for married physicians. If we wish to attract competent men and keep them satisfied, it will be necessary to offer them the right kind of home comforts. I am pleased to know that the Department of Public Welfare agrees with me in this particular and has decided to recommend a certain number of cottages for this and other hospitals.

A great deal of remodeling work has been done during the last two years. We had a certain sum of money appropriated by the last legislature (\$30,000, and \$10,000 additional for modern plumbing). I feel that considerable has been accomplished with this money, resulting not alone in real improvement of the buildings but also in marked betterment of living conditions of patients housed in these buildings. In this connection it was our special purpose and desire to remove from the buildings their antiquated and unsanitary features, such as unnecessary partitions, small rooms, dark dining rooms, bad basements, etc.,

substituting therefor large, airy spaces. We feel that we accomplished fairly well what we hoped and expected. As a result, we have converted an old abandoned pump-house into a high-class occupational center and have remodeled the following cottages for patients: Cottages 7, 8, 9, 10 and 12 north; cottages 7 and 9 south; the old Psychopathic Laboratory building, which is now a habit training ward. All these buildings are now pleasing, homelike and sanitary and their capacity is also considerably increased.

We still have a number of buildings needing the same kind of remodeling, and the necessary money has been asked in the new budget.

Our mechanical departments deserve much credit and commendation in connection with this work as all was done by our own employees.

In an institution as old and as extensive as ours it is evident that the requirements for general repairs are always present. Though we have attempted to do a great deal of repair work during the last two years, we find that much is yet to be done and hope that the appropriations for repair purposes will be adequate. The upkeep of a physical plant of this size is quite a problem.

FARM, GARDEN, DAIRY AND POULTRY DEPARTMENTS

On the whole, the results in these departments have been fairly satisfactory, though weather conditions have interfered considerably with best results. Our dairy department, however, is a problem. Through the tuberculin test we have lost a considerable number of our cows. Unfortunately, the means with which to substitute cattle for those lost were not available and we were obliged to buy a good deal of milk. I would recommend that in the coming appropriations sufficient money be obtained in order to replenish our herd.

Every effort is being made to instill into the minds of all concerned the necessity of the right kind of scientific and intensive farming and gardening and the careful study of all essential problems.

We completed a very useful farm shed, about 300 feet long by 50 feet wide. This building is utilized for the housing of all farm implements and wagons, a long-felt want, as in former times the farm property just mentioned had but little protection against the inclemencies of the weather. This large shed was built by our own people at a very moderate cost (less than \$5,000) and is an excellent piece of workmanship.

We have remodeled our milk pasteurizing plant and substituted new machinery for the old.

JACKSONVILLE STATE HOSPITAL

E. L. HILL, M. D., *Managing Officer*

I herewith respectfully submit to you, the thirty-eighth biennial report. This report covers the period from June 30, 1918, to July 1, 1920.

At the close of the last biennial report, June 30, 1918, the number of patients present was 2,117. At the close of this biennial period, the number of patients present was 2,178.

The number of patients admitted during the period covered by this report was 849. There were 170 patients readmitted. The number returned from parole was 67. Of those admitted, 493 were males; 356 were females. Of those readmitted, 104 were males and 66 were females; returned from parole: 28 were males, 39 were females.

The total number under treatment covering period of this report was 3,203.

Those discharged as improved were 243; those unimproved, 69; those cured, 93; 450 died. Of this number, 274 were males and 176 females. Fifty-six escaped and were dropped from the roll, of which 55 were male and 1 female.

Of those transferred to other institutions or deported, 6 males were transferred to Alton State Hospital; 1 male to Watertown; 1 male to Chicago; 1 female to Peoria; 1 female to Elgin; 1 male deported to Missouri; 1 male deported to Indiana.

CHANGE IN MEDICAL STAFF

Dr. C. B. Mayfield left the service to enter private practice and was succeeded by Dr. Samuel Dodds. Dr. B. Smith entered the army service. Dr. T. G. McLin entered the army service but returned after about one year's absence. Dr. W. A. Sim left the service and entered practice at the Norbury Sanatorium. Dr. H. E. Marselus, who was transferred to the Peoria State Hospital, was succeeded by Dr. H. S. Witten, who later entered private practice. Dr. C. W. Fuson was a member of the medical staff for a few months but left the service and entered private practice. Dr. O. L. Asher succeeded him. Dr. E. W. Zook was transferred to this hospital from the Anna State Hospital. He has been here only two months and a half and is to be transferred to the Peoria State Hospital December 1, 1920.

These changes and transfers leave the staff with Dr. E. L. Hill, managing officer; Dr. I. F. Freemmel, assistant superintendent; Dr. T. G. McLin, physician; Dr. E. Louise Abbott, physician, and two new members, Dr. O. L. Asher and Dr. Frederick J. Smith, leaving the staff very small and inadequate to give the patients the proper medical care and supervision. A strenuous effort has been made to fill these vacancies but was unsuccessful.

HEALTH

The health of the patients in the Jacksonville State Hospital during this biennial period has been good, except for an epidemic of influenza in the winter of 1919, two cases of smallpox, ten cases of measles and twenty cases of mumps. The patients have all received typhoid and smallpox vaccine and are now receiving, when needed, proper surgical attention, under the supervision and approval of Dr. McKelvey, the State surgeon. A number of operations have been performed by the medical staff upon his consent and approval.

Miss Theresa Clow, the State dietitian, has been of great aid to the hospital. We have endeavored to carry out her advice and instruction, which has given us a greater variety of food, with improvement in the cooking and distribution. This has been conducive to better health conditions among the patients.

IMPROVEMENTS

At the last session of the legislature, appropriations were made for the construction of an industrial building, tubercular cottage and dairy barn. Fifteen thousand, eighteen thousand and twenty thousand dollars were the sums appropriated for the respective buildings.

The industrial building was the first to be constructed, and the \$15,000 appropriated for its construction was used in the purchase of building material, and the construction of said building was done by patient labor, superintended and directed by A. J. McCarthy, our carpenter. The laying of the brick, carpenter work, painting and plumbing were done by patient labor. This building is one story high and contains 11,286 square feet of floor space. It is fire proof and modern in every respect. It is to be used strictly for vocational training.

The tubercular cottage is now in the course of construction, which will be by patient labor, as was done with the industrial building.

We expect to begin the construction of the dairy barn in the spring.

A large tract of timber land, consisting of 60 acres of virgin timber was secured fifteen miles from the Jacksonville State Hospital, the institution agreeing to clear the land and cut the timber into saw logs, posts, ties and wood, on a fifty-fifty basis. The owner of the land is to pay the State hospital \$12 per thousand for sawing his share of the lumber. The estimated amount of lumber to be sawed is about 250,000 feet. In exchange for this sawing, a sawmill outfit, consisting of an engine, saw,

two mule teams, and other equipment was traded by the owner for patient labor and the sawing of his half of the lumber. The value of the equipment is estimated at about \$3,000. The lumber which the State secures in this manner is to be used in the manufacture of furniture, building of fences, construction of lawn seats, and repairs and construction of buildings at the State hospital. The work of sawing lumber, clearing land, making posts, is done by patient labor which is superintended by a man and his wife and one other employee. Fifteen patients are located at this camp where they are properly housed and supervised.

TRAINING SCHOOL FOR NURSES

At the beginning of the training school year of 1920, the school had a senior class of seven pupil nurses, and a probationary class of sixteen pupils. Since the opening of the school, October 4, 1920, two senior pupils and eight probationary pupils have either resigned or discontinued their class work, principally because of sickness at home or preference for another vocation. Of the remaining senior nurses, three have received qualifying certificates and have entered the probationary class for an accredited course. These are also attending the classes conducted for senior pupils. Of the eight remaining probationary pupils, three have received qualifying certificates and two others have applied for examination for qualifying certificates. The remaining pupils of this group, three in number, wish to receive nurses' training, but for personal reasons, do not wish to qualify for the accredited course. At the present time, the Jacksonville State Hospital Training School for Nurses has eight pupils taking the accredited course, and five the non-accredited course, making a total of thirteen pupil nurses.

RELIGIOUS SERVICES

Religious services, both Catholic and Protestant, are held in this institution on Sunday; Catholic in the morning; Protestant in the afternoon, with Sunday School in both chapels and on the wards Sunday morning. The organization is instructed and directed by a patient superintendent and patient teachers, supervised by attendants.

AMUSEMENTS

Each Tuesday, Friday and Saturday afternoon, as well as each evening during the week, amusements of various kinds are held in both chapels under the instruction and supervision of Clarence Richardson, a graduate from the School for the Blind, and the vocal instructor, a university graduate. A patient band has been organized consisting of ten pieces, which we expect to grow to a twenty-five piece organization. Musicals are given by the patients under the supervision of the vocal instructor, who instructs them in voice, in groups and individually. Playlets and vaudeville performances are given by the organization twice a week; community singing twice a week, and picture shows twice

a week. The patients employed in these entertainments are receiving special instructions which places them in the educational group.

OCCUPATIONAL THERAPY, VOCATIONAL AND INDUSTRIAL TRAINING

In accordance with instructions given to us by the State Alienist, the patients in the Jacksonville State Hospital have been divided into five great groups, as follows: Acute Mental, Hospital, Infirmary, Educational and Industrial. The acute mental receive treatment on the receiving ward, Psychopathic and Hydrotherapeutic Departments. In the hospital, are grouped patients who are suffering from acute illness as well as surgical and other similar cases. In the infirmary, are grouped the infirm, senile and other handicapped patients who are incapable, through age or infirmity, of receiving educational, occupational therapy or vocational training.

Under educational are grouped patients who are capable of receiving occupational therapy and vocational training. Occupational therapy is further subdivided into habit training classes, and kindergarten, which is subdivided into grades A, B and C.

Under the industrial group are placed all patients who are suitable for industrial work, and are not receiving intensive training, vocational or otherwise. A record is kept of the advancement and progress the patients make in the different departments in which they receive training, and as they make progress, they are advanced in the different grades, and from there, further advanced in the vocational training or passed into the industrial group. We have in the neighborhood of 300 patients who are receiving vocational training. This includes carpentering, masonry, bricklaying, plumbing, electrical work, farming, gardening, tailoring, painting, stenography, bookkeeping, mechanical drawing, automobile mechanics, music and vocal training and the making of brushes, brooms, furniture, etc. They receive instruction from employees, some few of whom are very efficient instructors. A large number of the patients have made rapid progress; some have left the institution and taken up the trade or vocation they learned while patients of the Jacksonville State Hospital, and are making a living for themselves and families.

Four hundred patients are in the different grades of occupational therapy, while one thousand patients, both male and female, are assigned to the industrial group and employed in and around different departments of the hospital and on the farms. We have reached approximately the stage wherein we are able to say that we now have a job for every patient who is capable of receiving occupational therapy or vocational training.

SOCIAL SERVICE WORK

The Jacksonville State Hospital has two social service workers; one chief social service worker and one field worker. Their addition to the

staff has been an asset to the institution. Through them, we have been able to secure much valued information pertaining to the patients prior to their admittance into this institution, which we would have been unable to secure otherwise. Also it has made it possible for us to increase the number of patients out on parole, and lessen the number of returns of parole patients. They visit the homes of the patients who are out on parole, advise and counsel with the family and friends who have the interest of the patient at heart, recommending changes of occupation and oftentimes environment, and aiding and helping the patient to adjust himself so that he will be able to again fit into society and become a useful member.

Community clinics are held at various centers, of population from which the Jacksonville State Hospital receives patients. They are held at Quincy, Jacksonville, Springfield and Decatur. These clinics are conducted by the social service worker and a physician from the staff. The physicians, relatives and friends are expected to report at these clinics, monthly or semi-monthly, as is deemed necessary for each individual case. At these clinics, an opportunity is also given the social service workers, county officials, the court officials, school nurse and other public workers to refer to this clinic, any case they would like to have examined, and recommendations made relative to their care or supervision. Through these channels there have been examined 32 defective children, 37 backward children, 6 borderline mental cases, 15 dependent average children and 19 miscellaneous. Of these 47 were from Jacksonville, 13 from Quincy, 49 from Decatur, and 42 from Springfield. A record of each individual case is kept in the office, and if possible, a follow-up system will be operated.

FARMING

The Jacksonville State Hospital has 320 acres of land, 80 acres of which is occupied by buildings and campus. The balance of the land is largely used for gardening purposes, making it necessary for the institution to rent farms in order that we may be able to secure a site for the employment of our patients in the industrial group. Last year, the gross profits of the farm and farming activities were in the neighborhood of \$100,000 after all expenses of operation were paid, leaving a net profit to the State of \$61,000. On two of the farms the hospital has rented, a farm colony of fifteen patients each is placed. These patients live continuously on the farm and we have observed that the units are more than self-supporting and inasmuch as it is impossible for us to secure an appropriation to purchase a large tract of land, we expect to rent more farms and follow the same plan of operation. Because the Jacksonville State Hospital is situated in Morgan County—one of the richest agricultural districts of the State—the possibilities in this direction are very great, and I see no reason why fifteen or twenty colonies should not be placed in the vicinity adjacent to the institution. Under

favorable conditions, the hospital would be more than able to maintain these on a fifty-fifty rental basis without any expense to the State, while they would be an asset to the institution. In order to secure these farms on a rental basis, it would be necessary for us to operate them to a better and more profitable advantage to the owner than other renters, which we are now doing, evidently judging from the number of farms which have been offered to us.

DAIRY HERD

Six years ago the dairy herd of the Jacksonville State Hospital consisted of about 90 cows, practically all grade stuff. These cows were suffering from contagious abortion and many from tuberculosis. The tubercular cows were killed, under the supervision of the State Veterinarian. The cows infected with contagious abortion were isolated and treated and many of these were also butchered. A high grade registered bull was purchased from the Lyle Farm. We joined the Tri-county Cow Testing Association and began to build up our herd, keeping heifer calves whose mothers were either registered or promising grade stuff. Since joining the Tri-county Cow Testing Association, at two different times, recently, the herd has led the association in both milk and butterfat. Now we are getting 1,700 pounds milk daily and with the young and selected stuff that we now have on hand within two years we will have a minimum daily capacity of 2,500 pounds, which is the goal to which we have been working.

Practically all the pork that is used in the Jacksonville State Hospital is produced on the farm.

ANNA STATE HOSPITAL

CYRUS H. ANDERSON, M. D., *Managing Officer*

The Managing Officer of the Anna State Hospital has the honor of submitting its twenty-third biennial report covering the period beginning July 1, 1918, and ending June 30, 1920.

Financial and economic conditions existing during the reconstruction period following the World War have been unfavorable to progress and development in all departments of the institution. The Public Health Service continued to attract some of our best trained nurses and physicians by offering better remuneration than the State service. High salaries and wages paid in other industrial pursuits attracted many of our trained employees. High prices of building materials prevented many improvements and a completion of our building program. Progress has been made during the biennium ending June 30, 1920, under great difficulties.

REPAIRS AND IMPROVEMENTS

The increased cost of materials made it difficult to maintain the general upkeep of the institution.

Paints, varnishes and other materials were unobtainable at times.

Tile floors were laid in eight toilet rooms.

The dining rooms on the north wing have been enlarged so that all patients can now dine in the dining rooms.

Many improvements have been made in the laundry. The interior has been painted and an assorting room has been provided.

Conditions in the general kitchen were greatly improved by the construction of a monitor in the ceiling of the kitchen. The monitor is 10 feet by 16 feet and facilitates the escape of steam and heat emanating from the cooking equipment.

The roof of the main building has been repainted, all leaks properly stopped, and all open seams closed. The roofs of all out-buildings have been carefully inspected and repaired. All guttering and down-spouts have been inspected and replaced where necessary.

The laundry, the boiler house, the carpenter shop and coal storage building have been painted exteriorly. The painting force has covered a total area of 54,600 square feet during the biennium.

NEW BUILDINGS

A new horse barn has been erected at greater distance from the institution than the old ones. The removal of the horses to the new

barn has improved the sanitary condition of the institution and in a measure abated the fly nuisance. This building was erected from two repair appropriations amounting to \$3,000 and the salvage from one of the old buildings.

The brick horse barn has been remodeled and converted into an industrial building. The first floor of this building is occupied by male patients and is used for the repair of shoes, window shades, furniture and the manufacture of brooms, brushes and numerous other useful articles about the institution. The second floor is occupied by female patients, where kindergarten classes are taught and occupational therapy is applied under the supervision of a skilled technician. Weaving and other industries are likewise taught here.

A new poultry house, a well equipped brooder house and a number of colony houses have been erected. A clear strain of white wyandotte chickens and geese are being grown.

The appropriation for a new nurses' home has proven inadequate for its construction.

The Department of Public Works and Buildings is perfecting plans for the construction of a center unit of the proposed new home, but finds the funds inadequate for this purpose.

We have consistently cherished the hope that the ensuing session of the legislature will appropriate enough funds for the erection of a new kitchen. Our present building, though comparatively new, possesses a number of incurable defects. The culinary department never can operate in an approximately perfect manner until a new building is erected.

ADMINISTRATION

The reclassification of patients proposed by Dr. H. Douglas Singer based on indicated treatment has been adopted. This classification facilitates the handling of groups of patients, with individual care and supervision where needed. It also permits the withdrawal of employees from convalescent wards and their concentration on habit training and educational wards.

The statistical system proposed by the National Committee of Mental Hygiene has been adopted. This system affords uniformity in all statistical matters.

Social service work in the hospital has been inaugurated and enables us to clear up many obscure points in the history of patients, permitting a proper estimate of patients' ability to adjust themselves to home conditions. Under the social service workers management out-clinics are being established. By personal visits on the part of the social service worker and advantages afforded by out-clinics an adequate supervision of most parole patients is maintained. Through the influence of the social service worker a better feeling and understanding of the aims

and purposes of the hospital are established on the part of county officials.

During the year ending September 30, 1920, we paroled 300 patients. Of this number 148 were able to reestablish a proper adjustment with home conditions and were dropped from parole at the end of the parole period. Through the efforts of the social service worker we confidently expect to reduce the number of patients returned from parole and correspondingly increase the number placed on parole. The proper measure of success of the hospital is the number of patients who can be prepared by reeducation and rehabilitation to resume their places in society.

The equipment of patients for the resumption of a place in society depends very much on the creation of home conditions in the hospital. Patients who can adjust themselves to home conditions in the hospital will find an adjustment in the home a natural course of events.

Amusements are found to promote a normal interest among patients and make their stay in the hospital a pleasant one. We have endeavored to arrange a schedule of entertainments for each night during the week. The entertainments consist of motion picture shows, community singing, house parties, home talent plays and other forms of amusement.

AGRICULTURE

The farm and garden affords an opportunity for the healthful employment of a great number of patients. The character of the soil renders the maintenance of its fertility a difficult problem. The financial condition of the institution has prevented the purchase of an adequate supply of fertilizer. The purchase of one-half section of bottom land would permit the use of much of the hill land for pastoral purposes.

OCCUPATIONAL THERAPY

The service has witnessed no greater innovation than the scientific application of employment to the correction of abnormal habits and the cure of mental and nervous diseases. As previously stated, our patients are classified in regard to indicated treatment. The following table shows the degree of success attained in supplying employment in its various forms to the cure and correction of the patients to whom this form of treatment is applicable.

	Acute mental— Occupational Therapy.	Educational— Habit training.	Educational— Occupational Therapy.	Industrial— with supervision.	Industrial— care for self.	Total.
Number of patients in each group.....	56	158	251	380	452	1,297
Number receiving treatment.....	45	114	182	336	417	1,094

The remaining patients are classified in the Diagnostic, Acute Mental, Hospital and Infirm Groups, therefore unsuited to this form of treatment. It is noteworthy that no group is designated as needing hydrotherapeutic treatment. This omission is made because our hydrotherapeutic outfit is inaccessible because of its location. It is proposed to install a unit on both the male and female wings of the main building in the near future.

MEDICAL SERVICE

The medical service has suffered for want of trained physicians and nurses. The staff has been short in number of physicians throughout the entire biennium and has usually had one or more untrained physicians in positions of responsibility. The nursing force has lost some of its best trained members because of reconstruction activities. We hope to make the service more attractive to our medical staff by an increase in salaries and improved living conditions. We plan the erection of cottages for the housing of our staff physicians and their families. The nursing force will be cared for in the proposed new nurses home.

The dental work has been done with a view of caring for all foci of infection about the teeth. We expect to give more attention in the future to diseased conditions of the tonsils and nasal cavity.

The need of the services of a competent rhinologist and ophthalmologist is fully appreciated. The location of the hospital makes it difficult to secure the services of men of special training in these branches of medicine.

CHANGES IN MEDICAL STAFF

Dr. W. H. Brann, assistant physician, transferred from Alton, entered the service September 11, 1920, and left the service October 31, 1920.

Dr. C. H. Diehl, assistant physician, entered the service November 1, 1917, and left the service July 31, 1918, for a position in the Department of Public Health.

Dr. C. E. Erstling, junior assistant physician, entered the service January 7, 1919, and was transferred to Elgin State Hospital April 30, 1919.

Dr. C. E. Tucker, assistant physician, left the service January 24, 1919, to enter private practice.

Dr. P. S. Waters, physician, was transferred to Alton as assistant managing officer, September 9, 1919.

Dr. R. S. Wishard, junior assistant physician, entered the service April 21, 1919, and left the service October 31, 1919, to accept a position in the U. S. P. H. S.

Dr. H. E. Randolph, physician, returned from army service July 7, 1919.

Dr. D. E. Singleton, assistant physician, entered the service October 22, 1919.

WATERTOWN STATE HOSPITAL

M. C. HAWLEY, M. D., *Managing Officer*

Herewith is submitted the twelfth biennial report for the period July 1, 1918, to June 30, 1920, inclusive.

HEALTH

During this period we passed through two pandemics of influenza. The institution resources were at times taxed to the utmost and it was only because of the loyalty and devotion of our employees that we were able to weather the storm. The following statistical information might be of interest:

PATIENTS.

Age.	1918.				1920.			
	Number cases.	Number deaths.	Per cent cases.	Per cent deaths.	Number cases.	Number deaths.	Per cent cases.	Per cent deaths.
15-20	2		4		1		7	
20-30	76	13	15.4	19.4	12	1	8.7	16.6
30-40	149	22	29.8	32.8	18		13.1	
40-50	132	15	25.7	22.3	34		24.8	
50-60	88	7	17.8	10.	30		21.9	
60-70	33	7	6.5	10.	34	4	24.8	66.6
70-80	12	2	2.2	3.	5	1	3.6	16.6
80-90	1	1	.2	1.5	2		1.5	
90-100					1		.7	
All ages	493	67			137	6		
Male	297	39	60.	58.	23		17.	
Female	196	28	40.	42.	114	6	83.	100.

EMPLOYEES.

Male	26	1	35.	100.	5		42.	
Female	49		65.		7	1	58.	100.0
Total	75	1			12	1		

DEATHS.

	1918.	1920.
Influenza	44	
Influenza-pneumonia	7	4
Influenza broncho-pneumonia	16	1
Influenza empyema		1

COMPLICATIONS

In 1918 careful differential diagnosis was not attempted, owing to the shortage of medical and nursing help which was accentuated acutely by the large number of employees almost immediately incapacitated after the epidemic started.

In 1920 the contagion progressed more slowly. At no time were the medical and nursing forces crippled seriously. We were able to make careful examinations of all cases. Three cases of empyema developed, two of these were acute maniacal cases and one died before operation. The other two cases were operated—rib resection under local anesthesia, drainage with Wilson button, irrigation with glucose. The maniacal case eventually recovered both physically and mentally and is now home. The second case developed pulmonary tuberculosis and died July 9, 1920. The pleural sinus never stopped discharging. The other deaths were among older patients, three of them complicated with various chronic conditions—arterio sclerosis, chronic nephritis and valvular heart disease.

Aside from the influenza we have had no epidemics nor unusual illnesses. We were saved the usual summer and fall intestinal troubles through the screening of all wards, dining rooms, kitchens and slop-houses.

STAFF

There have been several changes in the staff since the last report. Most of the changes were among members who came in during our war period scarcity.

Dr. G. M. Lisor returned to the service.

Dr. C. E. Mayos resumed his duties following his discharge from the army.

Drs. O. C. Wise and G. W. Schelm left the service for other fields.

We have the same difficulty here that is experienced in other institutions of this character. Quarters for physicians are often not large enough and the necessity of going to a congregate dining room often works inconvenience and denies the privacy that a family desires. It is imperative that the State build cottages for married physicians. Such a venture would bring returns in many ways.

LABORATORY

The institution has been handicapped both by too few members of the medical staff and by inadequate equipment in doing laboratory work necessary for a complete hospital service. If money permits, it is desired to erect a building of sufficient proportions to serve as mortuary, laboratory and chapel. This will solve two other problems besides the laboratory one. We are now obliged, for the lack of a morgue, to rely upon local undertakers to call for bodies and keep them until such a time as relatives respond. Sometimes relatives resent this. Again,

while we have funeral service at the burial of indigent deceased, it would be fitting to provide a more pretentious service. The chapel would serve for this purpose. It could be used also for training school classes, autopsies and laboratory instruction. This building could be located conveniently in a grove adjacent to the hospital cemetery.

SURGICAL AND X-RAY EQUIPMENT

We have installed a sterilizer and other equipment which now gives us adequate facilities for taking care of our surgical needs. We soon expect to purchase an X-ray machine, the need of which is daily felt. These two additions to our equipment we desire to locate in the hospital building for women and if our plan through some reconstruction in this hospital carries, we will have space for housing in the one building the patients of both sexes requiring hospital care.

EMPLOYEE BODY

The war-time poverty in number, quality and tenure of employees continues but fortunately with prospects of improvement during the reconstruction period. Were it not for the trained and reliable employees' contributing extra service offsetting these faults and the ingenuity of department heads in meeting vexing situations, it would be doubtful if the institution could give a service that compares favorably with that rendered in more fortunate days.

The training school has not flourished in the last two years because of the uncertainty of what it could offer to graduates. Fortified in a new schedule approved by the Department of Registration and Education, the school opens this fall with prospects of increasing numbers and enthusiasm and before long will be returning to the service the graduate nurses so sorely needed.

HYDROTHERAPY

This department so necessary in the treatment of our patients has been handicapped by the arrangement of the rooms. It has been in the past possible to treat only one sex at a time. By installing partitions and removing others, it is now possible to treat both male and female patients at the same time.

Another discouraging feature has been and is still the inadequate water supply. Treatments can be given only in an eight-hour period. A solution of this difficulty, of course, is the solution of the water problem. This present arrangement of treatment we trust is only temporary. We need a separate hydrotherapy building to which patients needing treatment can be transferred. This building should contain small wards equipped with bed rooms and day rooms. This arrangement would mean so much in holding the effects of treatment while now it is lost as patients must return to the wards to mingle with other patients in an atmosphere of unrest, the contagiousness of which is unquestionable.

OCCUPATIONAL THERAPY

The field for the treatment is large and good results are expected. Our plan is to start in a small way and expand gradually as we see the need. The impression is that the greatest amount of good can be had in group work. To this end we have arranged two large basement centers, one in the main building and one in the C building. The former takes care of all patients of the more chronic type and the latter will be devoted to the treatment of the acute type of patients. In a reclassification of patients it is possible to place upon certain wards patients needing such treatment and so the work of gathering and returning them and keeping close observation of the groups is simplified.

Another center is maintained on the second floor of B5 cottage. The intention is to use this center for more advanced cases, individual work and vocational training. Plans are now being outlined for the treatment of the more deteriorated class. Physical conditions in a building now housing such patients do not offer the same ready advantages as are had for the other groups. It is thought better results could be obtained in habit training if small classes could be taken to another building to live and given intensive treatment. Classes would be graduated at the intervals results are obtained. Our building program would either provide new quarters or release other quarters suitable for the purpose.

AMUSEMENTS

Moving picture exhibitions continue to please and it is desired to give this entertainment more often. The weekly dance so long an institution custom appeals to so few that it is thought the energy, time and money could be spent in a more profitable way for those entertainments that reach the greatest number.

At intervals home talent plays are given and these prove to be intensely popular. A group of employees have organized and volunteered to present these plays at intervals.

The holidays have been fittingly observed and a great deal of ingenuity has been shown in giving the proper entertainments at these times.

We have been able to maintain a baseball team during the summer and games were played each Saturday. A basketball team is being organized for winter sport.

From means left to us by the relatives of a deceased patient, we were able to equip a play ground, tennis court and basketball court. These facilities are quite helpful to the Occupation Therapy Department.

UNIT SYSTEM OF ORGANIZATION

It has been possible to enlarge and improve upon this system inaugurated some two years ago. The institution was divided into four services, as follows: Main building, housing workers and occupational

therapy groups; the annex, housing the deteriorated and semi-disturbed classes; the C building, or acute service, and hospital and infirmary service. Each of these services is in charge of a physician; as his assistants he has a supervisor, a barber, a marking room clerk and as far as possible the same group of attendants. This maintains the same personnel in a unit and gains thereby a more contented force and one that is always familiar with conditions and needs. A friendly rivalry is seen that encourages better service.

FARM

The first year of the biennium was discouraging. The early wet season and later drought so retarded produce that no winter reserve was had. This year prospects are better, although the aphids made severe inroads upon the turnip, squash and melon crops.

The renting of the 40 acres was a good investment, so much so that we believe more land should be rented or purchased. Our garden needs new soil and more acreage.

The cherry orchard was fenced and this has prevented thieving of the fruit and the breaking of the limbs of the trees. Vigorous spraying of both cherry and plum trees produced results, as this year's crop was a record. A new orchard of apple trees was planted upon the ground to our north.

Unfortunately the farm cottage dining room was not completed this year. The hardship of coming to the institution dining room during inclement weather and the time lost in the busy season shows the necessity for this improvement. We trust that by next year it will be possible to use the money appropriated for this purpose.

The chicken yard now located upon the farm is to be moved some time later to the grounds on the north of the institution. At the site selected we expect to build the necessary buildings and we trust that under the direct attention of a poultryman the chicken industry so often unprofitable will give results.

Our dairy herd some time past was tested for tuberculosis and proved to be somewhat contaminated. These cows should be replaced as soon as the necessary funds can be obtained for the purchase of new cattle.

We have no lighting facilities at the farm, but it is possible to get current from the nearby city lines which will enable us to use electric lights in our barns and in this way do away with the constant menace of fire. We anticipate that this improvement will be accomplished in the near future.

The sewer at the farm now is connected to a passing storm drain and during the rainy season is unable to take care of the sewage from the farm cottage with the result that it backs up in the basement and causes a good deal of trouble. The difficulties that we will encounter in building a new sewer to the creek will be lack of sufficient fall and

the possibility of the objections of the residents in the locality. The solution in the matter seems to be the building of a septic tank.

KITCHEN AND BAKERY

The new kitchen and bakery will soon be under way and this will be quite a decided improvement as both departments are now inadequate as to capacity and the equipment of each quite antiquated.

The location of these departments in an addition to the general dining room on the east opens up possibilities for extension at future periods on the west. This will provide dining room space for patients now eating in the annex basement. Such arrangement will eventually give a compact unit for food preparation, and distribution and will remove the last dining room from the basement. The dining rooms in the annex thus vacated can be used for various purposes, the most urgent being the occupational therapy classes.

SERVICE BUILDINGS

The building of the new kitchen and bakery has caused the wrecking of the paint shop and if the plan of construction is followed later on, the carpenter shop will have to be moved. Therefore it will be necessary to select a site for service buildings and erect there a paint shop, which need is now before us, and at some future time a carpenter shop. Such a plan would be quite feasible inasmuch as all service buildings could be located at one site whereas now they are widely separated.

WATER SUPPLY

This summer we harnessed the river wells and are now using water pumped from this source, but unfortunately the supply does not seem adequate. This fault and the necessity of chlorinating and its attending dangers would make it seem important that some corrective alteration should be undertaken at once.

FIRE PROTECTION

We expect to install new mains and plugs soon, using an appropriation granted by the last legislature. Further improvements to the fire protection system would be the procuring of a new fire pump to give the necessary volume and pressure of water. We are gradually putting in fire escapes and expect in time to have each building thus equipped and protected.

Furthermore the replacing of old wiring in wooden cottages for patients and service buildings should be continued.

RELATIONS TO PUBLIC

It is desired that close relations be maintained between the community and the hospital. Much good can be had by any means that will bring the public, otherwise uninformed as to our public institutions, closer to the local hospital.

It has been our pleasure to entertain the Rotary Clubs of Moline and East Moline, medical societies, district nurses' association, womens' club, etc. Our staff has spoken before local organizations. We have had exhibits from our Occupational Therapy Department at the local stores. All these things have produced a growing interest on the part of organizations and individuals.

MAJOR IMPROVEMENTS

Masonry.

Sidewalks and curbing placed on the north side of the street leading to H1.

Tunnel to industrial building.

Curbing along the sidewalk to the north of main building.

Sidewalks around amusement hall.

Installation of cement and iron lamp posts on the front lawn, to the north of main building and at the entrances of amusement hall, H2, dining hall, H1 and C building.

Building of cement lawn benches.

Concrete steps to carpenter shop, H2 and plumbing shop.

Concrete block paint shop 20 by 40.

Concrete block ice house, capacity 800 tons.

Carpentry.

Stairway from first floor, main building.

New radiator covers in most wards.

Two hundred new chairs.

Remodeling hydro.

Laying new roof on H1.

Relaying barn floors at the farm.

Locks on all doors standardized.

Remodeling basements of main building and C building for occupational therapy classes.

Remodeling C6, employees' quarters.

Telephone booth built.

Lounges for wards.

Clothes hangers for most of the wards.

Screens for farm, main building and H2 porches.

Trestle work for coal hoist.

Electrical.

Rewiring root cellar, occupational therapy rooms, pumping station, tunnel to annex.

New lighting system for sewing room, paint shop, laundry and power house.

Fire alarm system installed.

Laying cables for lighting lamp posts and entrance lights.

Painting.

Repainting wards 1, 3, 5 and 7.

Repainting second floor hall main building.

Repainting third floor main building complete.

Repainting annex 3, 4, 5 and 6, center offices and employees' quarters.

Repainting B5, second floor.

Repainting C6, employees' quarters.

Repainting first floor C building.

Repainting B1 cottage, farm cottage and engineer's cottage.

Enameling beds in main building and annex.

Painting cornices and gutters, general dining room, power house, H2, B5 and C building.

Painting roofs on H2, B5, B1, B2, B4, root cellar, store.

Painting ward 4.

Painting carriages, buggies and autos.

Plumbing and Steamfitting.

Installation of univents in B3 cottage.

Completing the radiation of main building.

Installing radiation in male and married folks' dormitories.

Installing automatic flush boxes in annex, H1 and C building.

Laying of new sewer, main building.

Installing return lines, main building.

Putting in bypass at septic tank.

Dismantling indirect system in main building.

PEORIA STATE HOSPITAL

RALPH A. GOODNER, M. D., *Managing Officer*

Herewith is presented the thirteenth biennial report of the management of the Peoria State Hospital, covering the biennium ending June 30, 1920.

The movement of population has not varied much from the preceding biennial period.

Beginning the biennium, we had present 2,252 patients. Today we have under treatment 2,079, being a decrease of 173. There were 453 admissions the first and 380 the second year. Of this total, 124 were transfers, nearly all being from the Chicago State Hospital.

The number of deaths has maintained about the same ratio to the entire population as in former bienniums. However, the great number of paretics and seniles largely account for a seemingly rather high rate.

The number of voluntary admissions was 261 for this biennium as compared to 438 during the previous one, showing an improvement and discrimination in using this form of commitment, which had been much and seriously abused. It is still being used too promiscuously, resulting at times unsatisfactorily. I wish to recommend to our department that an advisory letter with explanatory details and recommendations be sent to our county judges, making the results of our experience available to them.

The general health of the patients has been remarkably good. We have been free from all epidemics, except influenza, which is covered elsewhere in this report.

Of homicides we record but one; suicides two. We believe we have almost established a new low record for the biennium in coroner's inquests, of which we have had eight.

In the face of the prevalent economic situation, both during and since the war, we were able to get all necessary employees, and assist the other hospitals by sending them our surplus applications.

The housing and maintenance of the medical staff is a subject to which I beg to refer briefly. Although this is an old problem, it evidently has never been solved to the satisfaction of those affected, as reports of discontent are heard frequently throughout the State.

It is suggested that the establishment of quarters on the plan of apartment houses and cottages would be most satisfactory, as this would obviate to a great extent the monotony of institutional life and provide a more normal family life for those who are married.

The dietary given on our daily report will, I believe, show itself to be relatively and actually plentiful in amount, protein content and calory content. Recommendations have been made and will be carried out to add to the variety.

We have not abandoned any progressive measures inaugurated for the benefit and pleasure of our patients or employees, though economic conditions and the degree of unrest have been unusual.

The most urgent needs of the institution may be summarized as follows:

1. Laundry equipment.
2. Water softening plant.
3. Material for a hard road entrance up the hill approach.
4. Additional fire emergency exits and fire fighting equipment.
5. Renewal of floors and wainscoting in general kitchen and bakery.
6. Rewiring "A" and "B" row cottages.
7. Additions to present machine shop and garage.
8. Additional shop machinery.
9. Replace old plumbing, second floors of the "A" and "B" rows.
10. Wagon scales.

MEDICAL WORK

Throughout the biennial period just ended, every effort has been made to maintain the customary high standard of efficiency in the Medical Department. Members of the staff have taken an active interest in current topics, attended medical meetings, and, in other ways, have tried to keep abreast of modern practice. Two members of the staff have taken post-graduate courses—one in eye, ear, nose and throat, the other in röntgenology.

We have adhered to the established custom of holding clinical staff meetings daily. Each newly admitted patient receives a preliminary physical examination within forty-eight hours. Later, a complete mental and physical examination is made, including a blood Wassermann and, if indicated, a Wassermann on the spinal fluid. Following this, and after all obtainable data has been secured, the patient is presented before the medical staff for consideration of a classification and treatment. The advisability of parole is decided in the same manner.

The physically sick are cared for in two hospitals; one for the acutely ill, the other for the more chronic type of cases. The nursing service in each is under the direct supervision of a qualified nurse and the personnel of each hospital unit is largely made up of pupil nurses. Tuberculous patients are cared for in buildings specially equipped to accomodate them.

The surgical service has been conducted along the same lines as formerly. Ninety-eight major surgical operations have been performed.

In the X-ray Department decided improvement is in progress. New equipment is in the process of installation. This will furnish us with up-to-the-minute facilities for doing such complex work as chest, abdomen, hip and pelvis, gastro-intestinal exposures, and will make for a better appreciation of fractures and dislocations.

In the Eye, Ear, Nose and Throat Department a daily clinic is held for the purpose of outlining treatment for diseased conditions and for the fitting of glasses. Fifty-one operations have been performed.

The laboratory service is conducted the same as heretofore for the examination of blood, sputum, urine, feces and stomach contents. There have been nineteen autopsies performed.

Recent advances in the dental field have demonstrated the close relationship between diseased dental conditions and bodily health to such an extent that, in our opinion, additional equipment should and will be added in order that radiographs can be made of every mouth.

Through the introduction of social service workers now contemplated we hope to give a few more patients home happiness and freedom.

The treatment of syphilis is being carried on systematically, and with especial attention to details and method. An apparatus of soft rubber tubing with glass connections has been devised to be used with a glass syringe. One needle and one set of tubing is prepared for each case and the same syringe used for all, obviating the necessity of sterilizing the syringe for each case separately.

Supplementing the intravenous injections of neoarsphenamine, inunctions of mercury are given and the internal administration of potassium iodide. The treatment of these cases has not been carried far enough to enable us to form definite conclusions as regards permanency of results. However, it is our opinion that improvement, both mental and physical, has been noted in all the cases with the possible exception of the paretics.

The efficiency system which was begun in this institution January 1, 1918, and of which a brief report was made in the previous biennium, has been continued and perfected along the lines laid down by Dr. Singer.

In March of 1920, Dr. Pollock, statistician, and Dr. Singer, alienist, visited our institution and explained the proposed new classification of mental cases as outlined by the National Committee for Mental Hygiene, also the new card system. Both have been made effective and are in complete operation.

CHANGES IN THE MEDICAL STAFF

Dr. C. B. Caldwell, chief of staff, was promoted and appointed managing officer of the Lincoln State School and Colony, January 1,

1920. Dr. C. C. Atherton, assistant managing officer of the Lincoln State School and Colony, succeeded Dr. Caldwell.

Dr. S. W. McKelvey, staff physician, was appointed institutional surgeon, July 1, 1919.

Dr. Ernst, physician, was transferred to the Chicago State Hospital on his return from army service, December, 1918.

Dr. F. A. Causey, physician, entered the service November 1, 1917; resigned September 1, 1919.

Dr. V. D. Thomas, acting assistant physician, entered the service May 20, 1918; resigned February 1, 1919.

Dr. H. W. Trigger, physician, entered the service April 9, 1918; resigned February 1, 1920.

Dr. H. E. Marselus, physician, was transferred from the Jacksonville State Hospital, January 15, 1920.

Hattie Levreau, R. N., chief nurse, was transferred to the Kankakee State Hospital, September 1, 1919. J. Marion McNaughton, R. N., chief nurse of the Lincoln State School and Colony, succeeded Miss Levreau, January 1, 1920.

Frances Douglass, pharmacist, was transferred to the Elgin State Hospital, July 1, 1919.

NURSING SERVICE

In 1918, ten nurses were graduated from this training school. This class upheld the traditional honor of this hospital by taking first place with the highest grade that has been made, and we also took second and fourth place, and, as a body, attained the highest average grade of any similar group since the State Civil Service Law has been in operation. In 1919, six nurses were graduated, having had a three years' accredited training course, including six months in the Illinois State Training School for Nurses, and four months' service in the Chicago Lying-in Hospital, making them eligible for State registration. These six nurses took a three months' post-graduate course in psychiatric nursing at the State Training School of Psychiatric Nursing. Of these, two returned to the Peoria State Hospital as psychiatric nurses; one was sent to Watertown; one to Anna and one to Chicago.

During the influenza epidemic of 1918-19, this hospital sent nurses and attendants to other institutions in need of help, including Lincoln, Normal, Wilmington, Geneva and St. Charles, also to Camp Bradley and Knights of Columbus Emergency Hospitals, Peoria.

Ten nurses and attendants assigned here from other institutions have taken the course for hydrotherapists. Nine completed the course.

Three classes in instruction for attendants are conducted during each calendar year. A course in simple nursing procedures was given to employees, to which the public was invited and met a generous response.

In April, 1920, Mrs. Nora Briggs, psychiatric nurse, was transferred to the Illinois Orphans' Home, Normal, Illinois, as assistant chief nurse.

The Training School for Nurses of the Peoria State Hospital was accredited by the Department of Registration and Education, June, 1920.

PREVENTION OF INSANITY

The subject of primary prevention is more important than the care and treatment of persons committed to our State hospitals, or the after-care of such individuals after release. Believing this, I think the functions of our hospitals should broaden and take in prophylaxis to better cover our part of the field of prevention. This must largely be done by educational methods, and if so, to whom would the public listen or heed more than the one actually in contact with and holding authority over our insane population.

The war has demonstrated the superiority of personal methods of teaching over printed matter, although the latter has an important place.

We could join with other agencies in public health campaigns, and become a center for prophylaxis and education. The beginning of more fundamental work is seen in the widespread movement for the teaching of mental hygiene, which includes prevention, in the schools, and for the general dissemination of correct information concerning the preservation of mental health.

The establishing of outdoor clinics and social service will give us additional sources for service.

INFLUENZA

This disease was epidemic during the fall and winter of 1918-19. At one time there were 240 employees and patients infected, and from first to last, approximately one-third of our patients and employees fell victims. Two cases, each due to pneumonia, among employees, and thirty-six among patients were fatal. A large proportion of patients succumbing were tubercular or of low resistance, and the deaths were practically all due to broncho-pneumonia as a complication. Hemorrhages and middle ear disease were also noted as complications. No special line of treatment was followed as serum and vaccine therapy were too experimental and reports too conflicting to trust. Special attention and care were given to keeping patients in bed until convalescence was well established, to prevent complications. Usual quarantine measures were instituted early and observed. We used our hospital "A" and cottage "B" for hospital care for these patients, the latter cottage being modern and ideal for this purpose. One lesson learned was the likelihood of overlooking infected patients on our cottages for demented types of patients who do not complain or evidence symptoms easily. The staff being so small and overworked, supervisors assisted in testing these

patients for temperatures, thereby allowing us to institute quarantine and treatment measures earlier and more surely.

The experience of the following winter was similar but patients much fewer, giving only a total of fifty-six infections, with deaths of two inmates. The disease started several months later, was milder and fewer complications resulted.

FARM

The farm consists of about three hundred and forty-five acres of rolling clay land; about two hundred and ten acres being in cultivation. The crops grown have been oats, corn, wheat, rye and potatoes, and this year timothy and alfalfa additional.

The acreage is too small, considering our population and available labor supply.

The soil is gradually being increased in fertility by recommended and tested measures. A field of twenty acres that had been treated was sown to alfalfa last fall and yielded 65 tons, or, in a money term, \$100 per acre, showing the possibilities of this soil, though clay, after proper treatment.

Some of the draws need to be tiled. There is only one more series of eroded hillsides to be brought into crop-growing condition, which will be done soon.

The farm production for this biennium in money values was as follows:

Beef	\$ 2,786.40	Milk	\$28,126.75
Veal	953.00	Stock food	6,786.20
Pork	13,513.47	Wheat and other produce....	3,384.76
Poultry and eggs.....	886.65		

The institution is very well supplied with livestock and carries at the present time:

Work stock	11	Calves	16
Bulls	3	Sows	28
Cows	60	Feeders	75
Helpers	45	Pigs	140

As often as opportunity presented, we have done farm work for our neighbors, shucking and gathering corn, baling hay and straw, cutting wheat, and in miscellaneous ways, taking pay in farm products. We freely advertised our willingness to assist our neighbors but have received only a comparatively few calls, but the ones we exchanged with the first season requested our help again, showing satisfaction. However, neighboring farms are small and a community spirit of exchanging help between the farmers themselves limits our opportunities.

GARDEN

We were able to cultivate only 75 of the 160 acres of bottom land garden the first year, owing to the overflowing, due to the back water of the Illinois River.

Even this acreage was cultivated only in part during an entire normal season. The planting consisted of lettuce, spinach, asparagus,

rhubarb, green onions, Swiss chard, beets, kohl-rabi, green beans, cucumbers, peppers, squash, pumpkins, turnips, carrots, tomatoes, Lima beans, sweet and Irish potatoes, cabbage and sweet corn.

The cash return at market value was \$12,555.28.

The second year or past season was much more successful owing to a more favorable season and more intensive gardening. We were able to cultivate 100 acres, and the cash market value is estimated at \$18,000. We had a number of cottage gardens, cultivated by the patients, that we started during the war-period and have successfully continued.

This garden land is excellent and the overflow district should be reclaimed. An opportunity to join with adjoining landowners in a drainage project is now offered, I understand. If practical, this should be done, or a levee constructed to the east of the Northwestern tracks. We have, ourselves, done some preliminary levee work and, perhaps, with the aid of the penal or reformatory institutions, coupled with our own labor and efforts, the State may be able to complete this reclamation work.

REPAIRS AND IMPROVEMENTS

Under this heading we will refer only to some of the more extensive improvements and repairs made.

A general shop was badly needed. Our mechanical departments were scattered and some of them housed in poorly lighted and ventilated, unsanitary basements. The shop we built is of cement block construction. The blocks were made and practically all of the construction done by patient labor. It is one-story, 100 feet long and 40 feet wide, with an 8-foot concrete unloading platform the entire length. The building is sub-divided into shops for the mechanical force with a central stock room where supplies are issued on requisition. Provision has been made for additions to house other departments, now separate, needing better and more commodious quarters.

The nurses home has been generally overhauled and painted two coats, both inside and out, and the old wooden steps and landings on the west side replaced with concrete.

The brick road pavement on the main street of the institution grounds was relaid over a distance of 1,200 feet in length and 14 feet in width. This was a very necessary work and was done with patient labor, under the supervision of one employee.

Seven thousand square feet of concrete walks was laid.

A branch tunnel of concrete construction, 90 feet long, 5 feet wide and 8 feet high, connecting the main tunnel with the basement of bake shop has been installed, over which all steam cooking devices have been connected, making the steam pipes accessible for repair at all times without disturbing the floor. A new canopy has also been placed over the steam kettles.

A tunnel was opened leading to the base of the coal hoist, making it accessible for repairs. Covering was laid over the incline leading from the ash tunnel. Several windows were put in the upper part of the boiler room, greatly improving the light and ventilation. The ash tunnel was deepened and 1,000 square feet of new concrete floor was laid. Ash pits under six 7 feet by 9 feet Green chain grates were lowered, making more room for the ashes and eliminating the expense of one employee on the night shift.

The \$1,500 appropriation for landscaping and planting has been expended and the appearance of the grounds greatly improved. The appropriations for repairing and overhauling two Ideal engines and installing new domestic heater have been expended. The appropriation for laying a six-inch cast iron water main from the power house to the barn and mattress shop was expended, our force doing the labor.

The entire interiors of the engine and pump rooms have been painted and all steam pipes covered and painted.

Roof and gutter work has been done by contracts to the amount of \$3,000.

The physical condition of this institution has greatly improved this biennium, but many repairs remain necessary, both on the exterior and interior of the buildings. With present cost of material and labor, our repair and improvement fund is too small.

REEDUCATION OF INSANE

Advantages have been taken of the resources of the hospital for re-educational work of patients in special classes. It is the policy of the institution to enlarge upon the scope of this work as soon as instructors are available.

We are anxious to advance this work as soon and as much as possible, and assist all we can in developing a community life spirit in which reeducation and occupational measures play a prominent part, and get away from the old custodial thought.

Since last report, a class of forty female patients was organized for useful fancy work and they have been busily engaged making quilts, rag rugs, table runners, hemming table linen, napkins, crocheting, knitting and general mending.

We are now arranging to start a kindergarten class on 5-C to lessen the amount of untidy and destructive idleness.

EMPLOYMENT OF PATIENTS

The work in the various industrial and domestic departments has not been allowed to lag, nor has it been handicapped by shortage of employees for supervision. In fact, we can report some progress. However, there is room for improvement and we hope to enlarge and better systematize present methods of using and selecting patients.

The patients are employed in practically all the institution's industries, as farm, garden, grounds, laundry, sewing and tailoring rooms, kitchens, dining rooms, housekeeping, power plant and all mechanical departments.

Counting the patients employed in a field of activity, that is labor saving and useful and more or less specialized, that engages the patient more or less during a reasonable and usual number of a patient's daily working hours, we total approximately 800. This number is aside from the patients engaged on cottages and wards doing chores, some domestic work, running rubbers and food carts, working at odd times on details and ward gardens. If all these partially employed were credited, it would roughly approximate two-thirds of our patient population.

WAR ACTIVITIES

Of the hospital staff enlisting during the World War were four staff physicians, eight graduate nurses and sixty-seven employees. Of these all staff members returned to State service, but only one nurse, and twenty-five employees.

Every branch of war work entered into with much patriotism and enthusiasm by the officers and employees was continued from the previous biennium into this one until the necessity lessened.

I had the honor of being appointed a member of the Medical Advisory Board at Large, upon Governor Lowden's recommendation, and was honorably discharged in March, 1919. At the request of our District Medical Board of Examiners a member of the staff sat with and assisted the board, giving his special attention to psychiatric problems.

SERVICE MEN

During the first part of the biennium an agreement was entered into between the United States Public Health Service and the Department of Public Welfare whereby service men were to receive treatment in the various hospitals of the State in the district wherein they formerly resided.

This hospital has received 24 men from the various Government camps and hospitals.

In the classification of these cases the following was demonstrated: Dementia praecox, 11; manic-depressive, 2; general paralysis of the insane, 3; epilepsy, 1; defective mental development, 5; alcoholism, not insane, 2; of the entire group, seven were shown to be syphilitic, (about 29 per cent), six addicted to the excessive use of alcohol, two to drugs and two afflicted with epilepsy.

From a study of these cases, we thing, judging by psychiatric standards, that either mental alienation, or a predisposing heredity was present even before Army life, and the stress and strain of Army experience was only a precipitating factor. A number of these cases have

improved under hospital care and have returned to their homes and in several instances are known to be leading useful lives.

ENTERTAINMENT OF PATIENTS

The usual entertainments have been furnished the patients. Hospital dances have been held frequently and seem to be one of the most enjoyable forms of amusement for the patients. An occasional masked ball is held and is the occasion of intense interest, each patient trying to out-do the other in the elaborateness of his disguise. In the summer, games of baseball are played between the hospital team and the teams of neighboring towns.

Much is made of Christmas week entertainment. During this time special Christmas services with a Christmas tree and gifts for all are held in the chapel. All wards are visited by the superintendent and staff, bringing Christmas greetings to all, accompanied by an orchestra. Also, during the week various amusements such as dances, masquerades, vaudeville, moving picture and amateur performances are given.

Moving picture shows, dramatic entertainments and automobile rides on the truck have been given from time to time.

The Fourth of July has been observed by special celebration.

RELIGIOUS SERVICES

The hospital is supplied with chaplains of the different denominations. The Protestant, Catholic and Jewish chaplains hold services each Sunday.

In conclusion I wish to state, more difficulties have been encountered than ever before, more problems and grave responsibilities have burdened us all.

CHICAGO STATE HOSPITAL

CHARLES F. READ, M. D., *Managing Officer*

I herewith respectfully submit the fourth biennial report of the Chicago State Hospital, covering the period ending June 30, 1920.

During this period the population of the Chicago State Hospital has slightly decreased, thanks to the fact that 634 patients have been transferred to other institutions downstate and a larger number than ever are being carried upon parole. The admissions have remained about the same. One thousand seven hundred one have been discharged and 1,168 have died. The death rate remains high due to the fact that we continue to receive all feeble cases committed from Cook County.

MEDICAL SERVICE

RESIDENT MEDICAL OFFICERS—JUNE 30, 1920

- / Charles F. Read, M. D., managing officer, September 6, 1917.
- Edward A. Foley, M. D., assistant managing officer, October 15, 1917.
- Duncan D. Campbell, M. D., physician, April 1, 1918.
- Barnett Lemchen, M. D., physician, November 1, 1912.
- Robert H. Rea, M. D., physician, April 21, 1910.
- David B. Rotman, M. D., physician, September 6, 1917.
- Robert B. Kershaw, M. D., physician, May 17, 1914.
- Harold S. Hulbert, M. D., assistant physician, October 1, 1919.
- Ola A. Kibler, M. D., assistant physician, August 8, 1919.
- Samuel A. Murphy, M. D., assistant physician, June 18, 1920.
- George W. Schelm, M. D., assistant physician, June 14, 1920.
- Selma O. Colbe, M. D., assistant physician, January 25, 1918.
- Charles E. McPeck, M. D., assistant physician, September 16, 1918.
- William H. Watts, M. D., dentist, May 24, 1915.

The following were in the Army medical service:

- Duncan D. Campbell, M. D., November 20, 1918, to November 8, 1919.
- Robert B. Kershaw, M. D., November 20, 1918, to December 24, 1918.
- David B. Rotman, M. D., April 3, 1918, to February 24, 1919.

There have been many changes in the hospital staff during this period. The periods of service of the various members who have resigned are as follows:

- Harriet S. McCarthy, M. D., physician, December 6, 1913, to December 20, 1918.
- Herman C. Stevens, M. D., physician, April 12, 1918, to April 1, 1919.
- Hanson J. Kofoed, M. D., assistant physician, March 4, 1918, to April 18, 1920.
- O. J. Baldwin, M. D., assistant physician, July 25, 1918, to March 1, 1920.
- C. H. Diehl, M. D., assistant physician, August 1, 1918, to September 16, 1918.

Margerie J. Gilfillan, M. D., assistant physician, March 29, 1919, to August 31, 1919.

M. O. Kagy, M. D., assistant physician, December 20, 1919, to May 16, 1920.

John B. Ernst, M. D., assistant physician, December 21, 1918, to March 21, 1919.

Paul J. Ewerhardt, M. D., assistant physician, August 22, 1919, to May 20, 1920.

The routine work of the medical staff has gone on as usual with the examination of patients and their presentation at daily staff meetings, the recording of progress notes, the care of the physically sick, etc.

The psychoses upon admission show about the same distribution as heretofore save that those due to alcohol have apparently diminished during the past year. This statement is conservative owing to the fact that we are still receiving certain types of dementia praecox which heretofore were masked by alcoholism and upon first presentation, at least, were apt to be classified as cases of alcoholic hallucinosis.

Little pathological work has been done, owing to the fact that we have been unable to obtain a pathologist to lead the way and to inspire the medical staff with zeal along this line. Forty-one autopsies have been performed, the gross findings of which have been carefully written up and filed in the records. A laboratory technician attends to all the routine laboratory work. The blood of all admission cases is sent to the State Psychopathic Laboratory for the Wassermann test; and where this is positive, or other suspicious signs or symptoms exist, the spinal fluid is also examined.

The various wards of the hospital have been provisionally classified along the lines suggested by the State Alienist and the patients grouped upon Diagnostic, Acute Mental, Infirmary, Educational or Industrial Services. This arrangement should lead in many ways to better medical care.

For a time it has been possible to have a night physician, a most desirable member of the medical staff in a large institution.

Hydrotherapy has been more extensively used than in the past. Upon the male hydrotherapy ward there is a hydrotherapist in charge of each shift so that patients may receive treatment throughout the twenty-four hours. Upon the female ward it has been more difficult to obtain hydrotherapists and in consequence, more sedative drugs have been used.

Patients have been weighed more carefully and these reports have been graphically reported upon individual cards from month to month, thus making it easy to note at a glance whether the patient is losing, gaining, or holding his own. The clerk in charge of this work makes up each month a list of patients who have suffered a notable loss. This list is distributed among the proper ward physicians and the cause investigated. Special diets are prescribed when indicated.

OCCUPATIONAL THERAPY

Reeducational work among the patients has continued along the lines indicated in our last report. The field has been broadened so that at the present time regular classes are conducted upon eleven wards, and also in the occupational center, a building devoted to the intensive treatment of patients selected from the various ward classes. An excellent play ground has been established upon the lawn and a gymnasium (made out of an old boiler room) has about been completed in connection with the occupational center.

Upon an average there have been six occupational aids, under the direction of a chief therapist, (and assisting them at the present writing there are ten attendants, detailed for this special purpose). A complete system of records has been introduced by the State Alienist and a part-time clerk assists in keeping them up.

In connection with this work there are three habit training wards for men and a like number for women with daily classes in occupational therapy and in calisthenics. To make room for the new comers promotions are made from these wards from time to time to more advanced wards in the educational group. Recently eleven thus promoted, with but one exception, made good in their new environment—saved from the extreme deterioration they would otherwise have suffered.

Unfortunately our records are not in shape to show the number of cases affected by this work during the exact period under discussion, but it is of interest to know that 2,389 individual patients have been passed through the department either in the occupational classes, or in the gymnasium and play ground work, or in both, between June 1, 1918, when the department was organized, and November 1, 1920, date of writing. However, the results of this reeducational work cannot be definitely measured by figures. Patients improve more rapidly under this treatment and some are benefited who otherwise would not gain at all. Many have been advanced to the industries who would have vegetated upon the back wards without this help. Deterioration, even where improvement has not been secured, has often times been arrested. Old and extremely deteriorated cases have become, with occupational training and habit training combined, more easily cared for even though they have otherwise made no appreciable advance. The calisthenics and games, without doubt, have resulted in an improvement in the general health of those who have been touched in this way. To quote from the writer's previous report upon this subject, "The results of this treatment are not miraculous, (though at times they would seem to approach this) but they are substantial and well worth while."

NURSING SERVICE

Along with other institutions we have found it difficult to obtain attendants during the post war period, and many have been restless and

unreliable. Our total quota of employees is about 480. On July 1, 1917, our total number on roll was 474; July 1, 1918, 383; July 1, 1919, 432; June 30, 1920, 385. This shortage has been entirely in the nursing department where we have been at times 125 attendants short. The turnover has been excessive, 280 per cent in the year of July 1, 1919, to June 30, 1920. Many individuals, following discharge at one institution, have made a practice of applying at another under an assumed name.

In August, 1918, the attendants received a \$10 increase and in February, 1920, another increase of the same amount, but these advances did not materially relieve the situation. (However, at the date of writing, owing to industrial depression we have increased our number of attendants to within 35 of our normal quota, and in time we shall very possibly obtain a better class of employees than ever before.)

In spite of this shortage of help the routine work of the institution has gone on surprisingly well, though some ideals of service naturally have suffered, and it has been quite impossible to undertake all of the constructive work we wished to do. Owing to a lack of applicants we have no school for graduate nurses. The State School for Psychiatric Nursing remains with us until the new State Psychopathic Hospital is built, and the work of its pupil nurses upon the wards has become a decided assistance.

For the instruction of new employees, particularly the attendant force, a Hospital Code has been published, with the approval of the department, and a copy placed in the hands of each new employee with the idea of setting before him the ideals of service that should be maintained in an institution of this kind.

In this connection should be mentioned the need of another employees dormitory in which to house married couples and single men. At present the married couples and most of the single men are rooming upon the wards or in two large wards which have been taken from female patients and converted into dormitories. This new building would not only serve as a dormitory, but as a social center for the employees, would make them much more comfortable and thus contribute to their permanence, and would make room for at least 200 patients in the space upon the wards now used for employees living quarters.

SOCIAL SERVICE AND OUT-PATIENT CLINICS

In his report of 1916-1918 the writer expressed the hope that the plans then under consideration in the Department of Public Welfare for organization of social service work in connection with the various State hospitals would soon materialize. So far as concerned this institution, this hope was speedily realized when in October, 1918, such a department was organized at the Chicago State Hospital, with a chief worker and two field workers. At date of writing the department has been in operation a little over two years and briefly stated, the work here has developed along the following lines:

1. The securing of information concerning the work done with the patient or his family by outside welfare agencies prior to his commitment.

2. Investigation of facts surrounding commitment of special cases for medical purposes, or in order to adjust home conditions so that no unnecessary domestic worry need interfere with the patient's convalescence.

3. The investigation of home conditions prior to parole, securing of employment, homes, etc.

4. Follow-up work with paroled patients, and as a part of this the management of out-patient clinics.

5. Social treatment, as well as mental hygiene work for the family.

6. To assist in linking up the work of the hospital with that of other welfare organizations and the community at large.

In the course of its duties the department, during this last year has made 2,422 visits, has interviewed 395 patients, found homes for 43, employment for 51, legal aid for 24, medical aid for 40, referred to other institutions 92, and has dealt in all with 1,079 individual patients.

In February, 1920, we established our first out-patient clinic, held every Sunday afternoon at the hospital. Two other clinics are in contemplation—one at the House of Social Service on Forty-seventh Street near Halsted to take care of the south side patients, and one at the dispensary of the University Medical School on the west side, Honore and Harrison. (At the date of writing both these latter clinics have been successfully established, with an average monthly attendance of 150, and there are four field workers in the department.)

As a result of the work of this department we are now carrying more patients upon parole and are keeping in touch with the great majority of them. Home conditions are being ameliorated wherever possible, and those who do not do well are returned to the hospital before any harm is done. Once having known what the assistance of this department means to our work, we should be quite lost without it.

NOTEWORTHY OCCURRENCES

On Sunday, March 28, 1920, a cyclone passed over the northwest side of the city and over a portion of the institution grounds. No patients were injured but considerable damage was done to the farm buildings, fences, etc. Across the road from our farm a small settlement of houses was practically wiped out and some forty patients were brought to the hospital for care. These patients ranged all the way from babyhood to old age and their injuries from a slight contusion to a compound fracture of the skull. One entire ward was turned over to the children, while adult patients were placed wherever there was a vacant bed. It was a privilege to render the neighboring community in its dire need a service of this character.

EDUCATIONAL WORK

During this period numberless groups of from ten to a hundred each have visited the hospital for the purpose of instruction along one line or another. We have given clinics for nurses of several general hospitals,

for the students of the Department of Sociology in the Chicago University, for public health nurses from the School of Civics and Philanthropy, and talks have been given either at the hospital or in the city before many women's organizations of various kinds. Regular weekly clinics have been given to the students from the University Medical School, and many groups and individuals have visited the institution to inspect the Occupational Therapy Department.

A booklet entitled "Fifty Facts" has been prepared and issued to visitors and to social service workers about the city, etc., for the purpose of acquainting them with the salient facts concerning the institution and the service it seeks to render.

We feel that this campaign of education has not been without result. Very slowly an appreciable proportion of the intelligent public is becoming acquainted with our work and ideals.

PHYSICAL IMPROVEMENTS

Contract Work Accomplished.

A forty-eight room addition to the nurses home, increasing its capacity by 96 beds.

The repair and replacement of roofing on the general dining room, a portion of main building, and the old assembly hall.

Exterior painting of seven buildings.

Repair and replacement of gutters and down spouts of DW building.

Repair of farm ward roof.

Removal of the abandoned stack connected with the old boiler room.

Removal of morgue to the hospital building.

Paving of Irving Park Boulevard, in conjunction with Cook County, along the entire south frontage.

Noteworthy Work Done with Institution Help.

Rehabilitation of annex building—new sills, floors, toilets.

New fire line to annex.

Remodeling of the old south boiler plant for an occupational center.

A very considerable amount of exterior and interior painting done with patient labor.

Conversion of ward A3 into a dormitory for male employees.

Reconstruction of the green houses.

Surfacing of many new roadways.

Landscaping.

WORK PLANNED FOR BUT LEFT UNDONE

The high pressure steam main to supply the south end of the grounds has not been installed, though appropriated for by the last General Assembly.

Fire connection to the pond has not been put in because appropriation was insufficient.

A proper sewer outlet for the institution still remains a vision of the future.

The tuberculosis pavilion for which \$30,000 was appropriated has not been built because the State Architect felt that it could not be completed with the sum available.

The appropriation for fire escapes was not sufficient.

All these items should be liberally provided for in the new budget.

ALTON STATE HOSPITAL

GEORGE A. ZELLER, M. D., *Managing Officer*

The close of the biennial period, June 30, 1920, found this institution, as indicated in the previous report, thoroughly organized and occupied to its full bed capacity. The average daily population has continued very close to 700, with approximately 100 employees regularly on the payroll.

It seems a far cry now to hark back to the gloomy days of the summer of 1918, but the generation that lived through that troublous period will never forget the feeling of relief and triumph that swept over the Nation when the Armistice whistles sounded on the morning of November 11.

That hour found everyone at his post, resolutely doing his utmost to make an untrained force meet the burdens that the absence of so many of our most energetic employees imposed.

It would scarcely be fair to this period of our national peril were we not to include in this report a list of those who either offered their services or were called to the colors.

Out of a total of 100 employees, most of whom were girls and many of the men far past the age of enlistment our service flag shows the names of fifteen men and women who were actually at work in this institution when they were inducted into the military service. There were many more who were called after leaving here or who resigned preparatory to entering the military service whose names we might be pardoned for including but, living up to the true spirit of the service flag and to avoid duplication, we list only those who, according to official interpretation, are entitled to a star in our flag. They are:

Seiwell, H. S., Captain, M. C., U. S. Army, (A. E. F.).
Pratt, Elgen C., First Lieutenant, M. C., U. S. Army.
Dare, Francis S., Second Lieutenant, Ordnance Reserve Corps.
Manzer, Theresa, Military Nurse, U. S. Army (A. E. F.).
Dickerson, Elva, Military Nurse, U. S. Army.
Boyd, Mary B., Military Nurse, U. S. Army.
Frye, Benjamin, Military Corps, U. S. Army.
Oldham, Clyde, Hospital Corps, U. S. Army (A. E. F.).
Wylie, Ralph, Private, U. S. Army.
Ryan, Claude, Private, U. S. Army.
Mick, Clifford, Private, U. S. Army.
Martin, Ira, Private, U. S. Army.
Brown, Charles B., Private, U. S. Army.
Cowhick, Thomas M., S. A. T. C., Machine Gun Corps.
Epley, John, S. A. T. C., U. S. Navy.

Miss Manzer, Miss Boyd and Mrs. Dickerson are still serving as military nurses, the former stationed at Coblenz, with the Army of Occupation.

It is a singular fact that, although we were located in a very active industrial district, we were never without applications for positions.

This simply emphasizes the fact that these positions, carrying with them maintenance, quarters and laundry are still more remunerative than those on the outside, where the net pay cannot be determined until these necessary expenses have been deducted.

If this truth were impressed upon the employee and a stop put to the interminable roving from one institution to another a greater stability and a longer average of tenure would result.

At one time it was the rule of the Civil Service Commission to discourage transfers and to place all requests for reinstatement at the foot of the list of applicants, there to await its exhaustion. Under that ruling the practice of resigning, quitting without notice or asking transfer for trivial reasons was not nearly so common as at present.

If as much effort were put forth to demonstrate to the employee that he is a favored individual rather than an overworked and underpaid public servant these positions would be regarded with greater favor than at present.

During the war we were careful not to take employees from essential industries and we had a thorough understanding to that effect with the nearby employers of labor.

In the matter of Liberty Loans this institution became a community, had its quota named by the city canvassers and invariably remitted the indicated amount.

Every war restriction was observed to the letter and every employee eligible for military or camp duty was urged to enlist.

THE GOVERNOR'S VISIT

Governor Lowden's visit on October 24, 1918, was more than an honor and more than a compliment. It was a formal dedication and, in a few well chosen words he proclaimed to the people that this institution was officially opened to the public exactly 100 years after the admission of the State into the Union.

Illinois and the Alton State Hospital will in the future have a birthday in common, with an even century intervening.

INFLUENZA

The influenza epidemic struck us with full force but we were able to cope with the situation without assistance from the outside. At the height of the epidemic we were able to loan three of our most energetic graduate nurses to Jefferson Barracks, St. Louis, in response to an urgent call.

They remained five weeks and each had a violent attack of the disease upon returning to the institution.

A glance at the mortality tables of this report will show the number of deaths due to the disease in 1918 and 1919. In general, 40 per cent of our patients and 80 per cent of our employees contracted the disease. That the mortality was limited to the former and that every employee escaped death does not necessarily imply that the latter had better care. It simply spells the difference between the aged and decrepit whose mentality was such as to preclude cooperation in remedial measures and the young and energetic employees who practised every known precaution in resisting the inroads of the disease.

POPULATION

Our previous report showed how by transfers from other and crowded institutions our population was quickly brought up to 700. The biennium just ended will show in some manner at least the extent to which the institution has been able to serve the community in which it is located. During the period patients were received as follows:

Year ending June 30, 1919:	
By transfer from other institutions.....	110
Direct from the courts.....	182
Year ending June 30, 1920:	
Total by transfer.....	47
Total by commitment.....	193

This shows that transfers are decreasing while direct commitments are increasing. This institution is located in Woodriver Township, Madison County. In the census of 1920 the adjacent city of Woodriver, showing a gain in population of over 4,000 per cent, surpassed in that respect every city in the United States.

This fact is merely set forth here in order to place before the authorities some idea of the demands that may some day be made upon our capacity. Many of these residents are poor foreigners to whom a long trip to visit afflicted relatives would be a hardship.

When it is recalled that no territory or district has ever been set aside for this institution and that commitments are left to the discretion of the judges of three or four County Courts, it will be seen that any considerable extension of our territory following the enlargement of the institution will call for many more commitments.

That results have met expectations is shown by the constantly growing percentage of voluntary commitments and by the presence, by choice, of many patients from territory quite remote from our immediate district.

FARM COLONIES

The extension of the farm colony idea, alluded to in a previous report has been the most interesting feature of our work.

Two old brick farm residences were rehabilitated and rendered habitable for 16 patients each, then three frame tenant houses were

collected from remote places on the farms and joined in a manner that provides an excellent home for 16 more.

Each colony comprises a happy family group and the members contribute materially to the upkeep of the institution. The expense of converting these abandoned buildings into habitable homes was negligible, yet they are so equipped that they could operate successfully independent of the parent institution.

A study of them would furnish valuable information to managers and officials of county homes. Either colony has more inmates than the vast majority of county homes, yet they run along, practically self sustaining, with very little intrusion upon our other activities.

If future extension of this institution were wholly to ignore the parent buildings and were to specialize upon detached farm colonies we believe that 50 of them could be erected on these premises and that they could be operated collectively and individually at much less cost and with much greater comfort to the patient than even the charming group cottages which were so great an improvement upon the obsolete consolidated building.

The St. Louis authorities have visited our plant several times with the idea of incorporating some of its features in their new municipal farm. They were particularly impressed with our farm colonies and are even convinced that individual furnaces, fired by dependable patients are preferable to the central heating plants which have proven so expensive of late years.

OCCUPATIONAL ACTIVITIES

Although we have not, in its true sense, conducted a school of occupational therapy we have pushed industrial reeducation to a point that kept practically all of our able bodied patients employed.

Some idea of the magnitude of the work may be gained from a study of our building operations. The legislature voted \$500,000 for new buildings. The Department of Public Works and Buildings decided to have us manufacture cement blocks to take the place of brick. As fast as material was assembled we trained patients to operate the seven machines placed at our disposal. The result is that, in six months and without the employment of any skilled labor our patients completed 99,552 cement blocks which are now on the premises ready for use.

The material for the construction of ten new buildings is practically all on the grounds. It filled 275 freight cars, which were unloaded and the contents distributed by our patients, supervised by a few charge attendants. This same force also made a number of excavations for tunnels and foundations.

The grounds have been greatly improved although much of this work must await the completion of the buildings.

AGRICULTURE

Farm operations were at times threatened by the diversion of so much of our inmate labor but the idea of greater productiveness was not overlooked. As a result we are able to point to the fact that this institution has not found it necessary to purchase a barrel of flour in two years. During the present year we threshed 4,100 bushels of wheat which was exchanged at the mill for 820 barrels of flour, more than sufficient to run us until the next harvest. We also threshed 3,500 bushels of oats.

The dairy herd is maintained at 140 head and there are 200 hogs.

The institution presents the appearance of a great big and fairly contented family, occupying a thousand acres which they regard as theirs.

Colonies which at first seemed so distant as to render supervision difficult appear close now that we have become accustomed to the greater expanse.

We greatly missed the counsel of Mr. Hoblit, farm and dairy consultant. In our efforts to restore our worn-out farm his cooperation was exceedingly helpful. His selection to manage the new penal farm, although depriving us of a much needed advisor, was a well deserved recognition.

Stability of tenure on the part of employees has been unusual in these times of unrest. Dr. Waters, assistant managing officer, Dr. Knowles, senior assistant physician and Miss Brown, chief nurse have been continuously with us during the period. They have been persistent in ministering to the human side and an inspection will show that both the sound and the sick have received excellent care.

Dr. Kelly, as full time dentist, has been able to give the teeth of our patients unusual attention. His report will show how much his services were in demand and makes us wonder how institutions with from three to five times our population can get along with only one dentist. An institution in a neighboring state has just reported to its trustees that it would be advisable to have at least a part-time dentist for its 2,500 patients!

Two years ago, as a wartime retrenchment, Miss Eyer, chief clerk, assumed the duties of storekeeper in addition to her regular work, while the storekeeper became, and still is, a fireman. Miss Eyer has carried both positions without added pay and has discharged her duties in a manner that won commendation from every visitor to the store or office.

Miss Lane, chief bookkeeper, has been with us through every transition and her accounts have always stood the closest scrutiny.

DIETETICS

Miss Grace Logan, a graduate dietitian took charge of our culinary department and put into effect the splendid program instituted by Miss Clow, consulting dietitian of the State.

Much valuable equipment was added and the dining room service was improved in every way. The idea that labor saving devices should not be installed in institutions for the insane on account of the prevalence of inmate help is fast passing. It is found that drudgery in an institution is no more calculated to uplift its inmates than in the outside world and every appliance that lessens human burdens contributes its share in elevating the physical and mental standard of the race. Occupational therapy, with work best suited to the temperament of the individual will, once thoroughly established, solve the question of unemployment in our institutions.

THE FUTURE

In heeding the prevalent cry "back to normalcy" we might just as well search our attitude toward the care of the insane. The repulsive utica crib, the hideous restraint apparatus and the barred and bare cell, so recently tolerated even in progressive Illinois and now, happily, forever abolished, were but a part of the burden we inflicted upon the insane.

Their care has in no sense been considered from the standpoint of normal existence. Because they have shown abnormal tendencies our attitude toward them has been likewise abnormal.

Their emancipation from this viewpoint was first manifest when the "annex" replaced the frowning "center" with its right and left wing. But we have annexes in several of our institutions into which 500 people are crowded.

Then came the comfortable detached cottages, but some of these house 150 each.

Now must come the little family group, each occupied with the affairs of daily life in the country. It has been proven that small cottages can be built at a less per capita cost than skyscrapers. It costs \$3,500 per bed to build a modern hotel.

It is certain that even at present prices cottages for the insane, of a capacity of 20 each, can be built at a cost of less than \$500 per patient.

CHESTER STATE HOSPITAL

FRANK A. STUBBLEFIELD, M. D., *Managing Officer*

I have the honor to submit the report of the Chester State Hospital for the biennial period ending June 30, 1920. During this period our population has been increased by 65 admissions and is now up to normal capacity.

The general health of the inmates has been good and the mortality has been low. There have been no serious accidents. During the winter of 1919 we had a mild epidemic of influenza. All cases recovered.

Our former policy of employing inmate labor in every possible way has been continued. Inmates operate the laundry, the dairy and prepare and serve the food with a minimum of supervision.

A new butcher shop has been completed which gives us much better facilities for handling and storing meats.

For the past few years the ground to the north of the main building has been slipping badly and the situation has become dangerous. A retaining wall is now in process of construction for which \$8,500 has been appropriated. When completed this difficulty will be successfully remedied. The plumbing of the entire building is old and in a bad state of repair. It should be thoroughly overhauled. The buildings should all be painted.

No new furniture has been bought for several years and much of what we have is in bad shape.

A modern cell house surrounded by a wall should be erected as soon as possible to accommodate about fifty patients. We receive the most dangerous cases from the prisons, reformatories and other State hospitals and as this building is old it is extremely difficult to prevent their escape. It would also be of great benefit to the other patients to withdraw this disturbing element from among them.

It is very necessary that we should have some horses and farming implements. This would enable us to raise a supply of fresh vegetables and give employment to a number of our patients.

A desirable tract of ground comprising about ten acres lies close to the hospital and should be purchased.

We could use a number of hogs to advantage as we have plenty of garbage and a good hog barn.

The water supply is very bad. Being pumped directly from the river it is generally unfit for any purpose. The mud eats out the valves

and clogs the pumps. We are compelled to rely solely on cisterns for water for drinking and cooking purposes and in event of an extremely dry period our supply runs out and necessitates hauling water from the prison. A filtration plant and settling basin is very necessary and would soon pay for itself.

LINCOLN STATE SCHOOL AND COLONY

C. B. CALDWELL, M. D., *Managing Officer*

Herewith is respectfully submitted the report of the Managing Officer of the Lincoln State School and Colony for the biennial period ending June 30, 1920. On January 1, 1920, the resignation of Doctor T. H. Leonard as Managing Officer became effective so that the writer has been in charge only during the last six months of the biennium.

GENERAL POLICIES

The operation of the Illinois law for court commitment of the feeble-minded has served to overcrowd the institution despite the fact that transfers of patients to other institutions (mainly the Dixon State Hospital) took place during the two-year period. The law removed all restrictions as to age, sex and mental status thus constantly increasing the number of custodial cases and consequently embarrassing the several training features.

As a result of the crowding an effort has been made to relieve the situation by placing out for extra institutional industrial employment certain children who seem to be fitted for such work. This move was made easier by reason of the country wide labor shortage. By experimentation we have found that girl inmates have adjusted themselves to domestic work in general hospitals better than in any other field. Moreover they have been assured that intelligent supervision which a general hospital nurse personnel can give. At present we have some two dozen girls in the general hospitals of Lincoln and Springfield where they are pretty uniformly reported as doing surprisingly well. Upwards of one dozen boys have been placed on neighboring farms where they also have found a suitable niche and where they are enabled to get a modest financial return for their labor. Both males and females so placed out get a wage average of \$3.50 per week including board, room and laundry, from which they clothe themselves and have some spending money. They are paroled indefinitely but their funds are kept in the institution trust fund. In this way their expenditures are at all times under supervision from the institution. Their liberties and responsibilities are also under direct supervision of the institution management on account of the close cooperation with the general hospital managements. Certainly all of these children are happy and appreciate the confidence which has been placed in them.

A more advanced stage looking towards the return of the feeble-minded individual to a more nearly normal mode of life, the so-called colony plan that has worked out rather successfully in some of the eastern states, we have not been able to try in this section due to the scarcity of city homes for rental and a like scarcity of farm land for rental at reasonable rates. In its stead we have allowed certain groups to go out from the institution for corn husking, garden and fruit cultivation, straw baling, yard raking, and the like. Some of the older trustworthy females have been allowed to go out for the day to help with the domestic work in suitable private homes in the vicinity of the institution. In this way probably two hundred males and females have been employed from time to time. When a large group goes out to bale straw, husk corn, pick fruit and gather crops on an extensive scale and under the supervision of an institution employee pay for their labor is taken out in a percentage of the article on which they are working. Articles received in this way are turned over for the use of the main body of the institution. At other times when the groups are small, or when a single individual goes out to work, a fee of 15 cents an hour is charged which sum goes to the credit of the child in the inmate trust fund. The children regard such opportunities to make a little money for themselves as a privilege and in order to be assured that they will have future opportunities they are often on their best behavior. It is a concession to their desire to be at large which it is believed we can well afford to make. The money they receive is not spent foolishly but in the main is used for articles of clothing that will allow them to exercise a choice about what they wear which one may be sure is much appreciated by the children.

Some of the children who are allowed to do extra institutional work are of the delinquent type. This institution has somewhat over 200 children of the moron group who are good examples of delinquency of one kind or another. They contaminated the morals of the simple type of feeble-minded children so much that it was found necessary to segregate them in special classes under experienced attendants and to furnish them with regular work in an effort to curb immoral activities. The saving feature of the delinquent makeup is the fact that as a rule such individuals will work. If it had not been for our policy of keeping them constantly occupied at physical labor they could not have been managed at all.

The problem of the kind of training the feeble-minded child should have has been steadily kept in mind. This especially applies to school, to the industries and to the recreations of the children. Further attention will be given this point under the section entitled "Education and Training."

The Lincoln institution installed towards the end of the biennium the system of statistical records recommended by the National Committee for Mental Hygiene, it being the first institution in the country to

adopt and apply this system. Its use will serve to make available information that has often been covered hopelessly under previous methods.

While we have not fully developed the out-patient clinic idea we have encouraged the surrounding communities to send their problems to us for examination, diagnosis and recommendation for treatment. In this way approximately 100 children have been examined and recommendations made.

It has been the fault of institutions for the feeble-minded that they did not keep in close enough touch with the public and as a consequence did not function to nearly the value they should be made to function. This has been caused partially by the fact that the local institutional problems were so pressing that external problems regarding feeble-mindedness were lost sight of except in a rather casual way. It is recommended that our activities be enlarged so that school clinics may be held at stated times and in stated centers of population whereby mental abnormalities in children may be properly classified and intelligent recommendations made for their disposition in life. The institution for the feeble-minded should be a center and a fountain-head for such activities. A psychiatrist and a psychologist from the institution should cooperate with a physician, and school nurse, and the teacher of a child from a given community to examine that child and in a systematic way to rate him for diagnosis and treatment in those cases where the child has been a school problem.

Along this line the out-patient clinic idea should be extended. The services the institution for the feeble-minded could give the public might be enlarged greatly without marked interference with the regular work to be done.

Owing to the fact that it is manifestly impossible for the institution to care for more than one-tenth of the mentally deficient population in our State it devolves upon other agencies to give those mental deficient outside the institutions such training as will best fit them for a place in life. This means that eventually the public schools must have special rooms set aside for the instruction of subnormal pupils. Granted this there must be teachers for such children. It then follows that these teachers must be trained. In sequence the chain then requires that these teachers have proper material for training. This situation involves close coordination of effort between the educational institutions of the State—principally the normal schools and the State University—and the institution for the feeble-minded. It is believed that the institutional school should be open to classes of teachers who wish to take up this specialty. In some instances this has been done at Lincoln but not nearly so much in an organized way as it should be done. There are in operation in some of the larger cities in Illinois special rooms for the teaching of subnormal children but not to the extent that there should be under anything like ideal conditions.

It is recommended that the present commitment law which has been in operation since 1915 be changed so that not only may cases be involuntarily committed but that they may be voluntarily admitted. There are two kinds of feeble-minded children—what one might call “bad” children and another class called “good” children. Where a little child is afflicted with the simple variety of mental deficiency and its parents desire training in an institution which they cannot give or cause to be given at home there appears to be no particular reason why these parents should be forced to pass through a long and intricate legal proceeding to have their child admitted to an institution. A clause providing for voluntary admission much the same as appears in the law providing voluntary admission to institutions for the insane would meet this situation. It is my belief that the commitment law should give the Department of Public Welfare much more authority and the courts much less authority about the discharge and parole of cases from the institution. It may be sound policy for the courts to commit these cases but their discharge and parole should be placed directly on the shoulders of the institution management. If a managing officer is not regarded as competent to pass on the discharge or parole of a given child he is not competent to be managing officer of an institution for the feeble-minded. It seems to me that the law as a whole is too cold blooded and formal in its language. I believe it should be thoroughly revised.

As it is manifestly unfair to children of the simple type of mental deficiency to have delinquents associated with them I believe that for the purpose of absolutely separating these two types that there should be created by the State of Illinois a distinct institution for defective delinquents.

To the end that a more intimate relation between the institution and the interested public be established it is of prime importance that the institution have a social service department. This department has been arranged for but we have been unable to obtain workers of any kind. The problem of social work in mental deficiency is intimately bound up with the question of after-care of the feeble-minded children who are discharged or paroled. It is our intention to develop this field just as soon as trained workers become available for employment.

A census of the mental defectives within the borders of Illinois is very necessary so that the problem of handling them may be considered in a broad way. The Lincoln State School and Colony is in possession of valuable records that will prove of great assistance in the making of such a census. We have already cooperated with the Child Welfare Commission to the end that plans for this census will be made shortly. It is the policy of the management to assist in every way other agencies which are making efforts to solve the greater problems that are connected with the feeble-minded of the State.

MEDICAL MANAGEMENT

The outstanding occurrence of this period in the medical work of the institution was the epidemic of influenza in the autumn of 1918 and extending into the early months of 1919. There were recorded 800 cases of inmates and employees at that time. A total of 72 died, either during the acute attack or from various complications. Many of the strong, robust children were taken by this disease.

In the winter of 1919-20 there was a recurrence of influenza with a total of 206 cases. The disease appeared this time in much milder form, there being only one death which was complicated with other physical diseases. We were much better equipped by organization to meet the second epidemic than we were the first. Preliminary plans had been made before the second epidemic as to just where we would segregate certain cases and all precautionary measures were previously outlined.

Measles during the period reached a total of 75 cases. Measles is always a dreaded disease in an institution for the feeble-minded. It is so often followed by pneumonia and tuberculosis. We were fortunate to have only five deaths from this disease with its complications.

All during the biennium we have had a special ward for the care and treatment of amebic dysentery cases. Just how this disease became introduced into the institution is not known but we have had 30 cases, 28 of whom have recovered under treatment or in whom the disease was inactive. By inactive is meant that laboratory findings did not reveal further amebic organisms.

There have been a few cases of diphtheria, scarlet fever, chicken pox and streptococcus sore throat. Such cases have been promptly isolated so as to prevent their wide spread through the institution.

Close cooperation with the Federal and State Departments of Public Health has been used in the care of venereal cases. Routine examinations for syphilis are made and approximately 8 per cent of all incoming children are found to be so affected. Prompt and continuous therapeutic measures are followed in all these cases and complete monthly reports made as to progress to the State Department of Public Health.

The department of surgery of the institution has worked in harmony at all times with the State Surgeon. A number of lives have been saved by surgical operations and a number of other operations have promoted the comfort and welfare of the inmates. Except as an emergency to save a life no operation has been performed without first obtaining the consent of the relatives of the child.

The matter of food and nourishment for the children has been watched closely and the recommendations of the State Dietitian followed wherever possible. Some research work along the lines of bodily nourishment has been made in cooperation with the Elizabeth McCormick Memorial Fund of Chicago. It is my opinion that the general nutrition

of the inmates of this institution is much better during the past few years.

Research work has also been done along the lines of classifying children with correctible defects, notably those of the eye, ear, nose and throat. Approximately 1,000 of our children had such defects. Steps have been taken to correct these defects as rapidly as circumstances will allow.

The medical classification of the cases in general is receiving attention. We hope even under our crowded condition to arrange the wards to a better advantage than at present.

PSYCHOLOGICAL PROBLEMS

The department of psychology of this institution under ideal conditions would be greatly enlarged so that more research work could be done than is being carried on at the present time. During the period a total of over 1,500 children were given mental examinations. A large number of these were reexaminations. The policy has been to do several varieties of mental examinations to meet the changing conditions.

The department really should have a senior psychologist and two assistant psychologists. One of these for full time and another for part time should be occupied at research work on the psychology of mental deficiency. As it is, the time is largely used in routine examinations. Every child who comes into the institution is given a mental test. In addition examinations for out-patients are held and considerable consultation work with school officials and parents of children is done. Two research problems are: First, to find the relation between the school progress of our children and their mental progress in general. Second, the stability of the intelligence quotient. It has been held that through the first eight years of a mentally deficient child's life the intelligence quotient will be fairly stable. Our research work in this line, while not complete indicates that such would not be the case in many individuals.

As conditions get down towards normal we expect to enlarge the department by adding more employees, increasing the apparatus and reference books, and devising such new tests for school and general mental ability as will meet our local conditions. The addition of social service work to the institution will be of much advantage to this department.

EDUCATION AND TRAINING

The original purpose of this institution was to provide such educational and training measures as would as nearly as possible restore mentally deficient children to a normal standing in life. Since then opinions have been revised and we are today rather more concerned with the degree of improvement than the hope of normality. The experience of many years with the education and training of the feeble-minded has taught us that less teaching of the literary branches and more of manual work will better fit the feeble-minded individual to meet life.

The trend in school work has been towards hand work. The theory of the school is that these children when young should be trained along such lines as will allow them to step upward into industrial occupations where they can fit in with the world. The literary branches are taught because there are some children that show marked improvement. Occasionally one child who has been deprived through some reason shows marked ability. As a result of finding this condition at Lincoln all such children have been transferred to schools where they would have the same opportunity as normal children and also be associated with normal children. Our school is gradually recovering from the jarring effects of the war. A revival of interest in manual training is in evidence. Basketry, chair caning, seat weaving, wood cutting, toy making, rug weaving and carpentry are departments that are built up. In the near future it is planned to raise our own willow for willow work and to introduce cane chair weaving.

Feeble-minded children naturally take to music and it is a means of preserving their interest and keeping order in their ranks, which is of the highest importance. Children of a lower order of mentality, when noisy and restless, will become surprisingly quiet if a phonograph is started in their rooms. So in the school vocal and instrumental music are taught. There is a band which has done nicely through the years. This band is in charge of our physical culture teacher because of our inability to obtain a band instructor. Music is used with the drills and physical culture exercises. It is thus one of the important features of the school.

As the purpose of the school is to train children for more serious future occupations an effort is being made to coordinate their training with that of the industries. For the girls plain and fancy sewing, domestic science, rug making, fancy work and the like are emphasized. For the boys preparations for work in the shoe shop, in the brush shop, in mechanical work, farming and gardening are carried out so that eventually their experience will be of material benefit.

A number of teachers from public schools of Illinois have visited the school to study our methods for handling the mentally deficient in their school training. It is hoped to develop this feature further so that we may have the closest coordination between the educational interests of the State and our own.

Special attention is being given to the play reactions of the children. We have not yet been able to obtain a director of play for boys and also a similar director for girls but we wish to do so in order that their play may be along organized lines, thus blending with their work, study and recreation.

An average of 500 children attend school daily. About 1,000 children are employed in the industries about the institution. Some of these it is true do not do much work. However, even though they only

take leaves, they are kept occupied and seem happier as a result. As soon as the new laundry building is occupied we expect to make certain changes in the old laundry building to increase our space for industrial occupations. This will mean a spread of furniture repairing activities, the shoe making and repairing department, and the sewing room. Room is urgently needed in the school and industrial departments.

NURSING SERVICE

The nursing and attendant service has probably suffered more from industrial unrest and the situation created by the war than any other department. The attendant force for most of the period has been constantly changing with the exception of a few old and trusted employees. These employees formed a nucleus whose steadiness was of the greatest possible aid in doing the work connected with the care of the children.

Owing to these conditions it was with the greatest difficulty that a training school for nurses could be kept up. Now that some of the former employees are returning from Army service and from other industrial fields we expect to renew with increased vigor our activities for the training school.

There was a change of chief nurses on January 1, Miss Shirley Bostrand coming direct from the Army, while Miss Marion McNaughton who had served faithfully for years was transferred to the Peoria State Hospital.

PHYSICAL PLANT

Three new buildings are being completed as this is written. They are, the laundry building, the building for delinquent women and infant children and a hospital for tuberculous males.

The erection of these buildings has given an opportunity for the use of inmate labor and considerable saving has been effected thereby. In all of them the trench digging, the laying of foundations, concrete floors in the basements, concrete walks and much of the other work up to the building line has been performed by the institution workers. When the two buildings for children are occupied we expect to have room for 60 additional female inmates. This will serve to reduce the rather large number now on the waiting list for admission.

The institution is building some heating tunnels in an effort to make the tunnel system complete in connecting all of the buildings with the central power plant.

The coal situation during the recent winter was met very nicely by storage of coal along the switch tracks. Only once did our supply become alarmingly low.

Part of the plumbing for the girl's cottage was installed and all of the new plumbing in the boy's cottage completed. There remains the necessity of an additional appropriation to complete the plumbing of the girl's cottage.

In the power plant the installation of super-heaters and an ash conveyor for the boilers would increase the efficiency of the plant to a decided degree.

The Lincoln institution has about reached its limit for inmates and it is believed that no new buildings should be contemplated unless there is a readjustment of the power plant. Our present arrangement, however, would permit of the building of several small cottages for married employees or for a staff building to house married officers and employees. The institution is in urgent need of some better method to care for officers and employees than it now possesses.

When the appropriations are asked for it is the intention to request funds to build a central kitchen to replace the system of scattered kitchens now in use. As it is, the dietitian or chief cook has considerable difficulty to keep in touch with the various kitchens. Under the new arrangement we expect to have a roomier kitchen that will supply the needs of the whole institution causing an economy of time and work in handling food supplies.

If possible an additional small building should be erected to house the blacksmith shop, to allow for winter concrete work and the storage of plaster and cement, also to care for accumulating scrap iron. The grounds are so crowded with buildings that we have no adequate place to dispose of scrap iron and used parts of machinery that may be wanted later. Such a building could take care of this need.

At the present time the institution supply of water is received from the Lincoln Water and Light Company. Often times this water is rusty and in danger of pollution. It would effect a considerable money saving if we could have a deep well system of our own. We already have power in our power plant and there is supposed to be an underground lake some 200 feet down which if true would furnish us an inexhaustible supply of good water.

The mechanical department has run through the biennium with a minimum of friction and dissatisfaction when labor unrest and scarcity was at its height on the outside. The personnel of the mechanical and industrial departments is indeed to be congratulated.

FARM AND GARDEN

All available space at the main institution grounds that can be used without encroaching upon the children's playgrounds has been used for gardens. This has made an appreciable addition to the variety of food.

The farm consisting of 430 acres, two miles from the institution, has not enough land to furnish feed for the dairy herd and work stock and in addition furnish adequate space for the raising of sufficient garden truck and fruit to supply the ordinary needs of the institution. Eighty acres of the farm is land subject to overflow from Salt Creek. Some of the land overlooking Salt Creek is inclined to be rough and rather poor.

A few areas throughout the remainder of the farm land are low and should have drainage to get the best results.

The practice of trying to grow Irish potatoes is successful about one year in ten. I would respectfully recommend that we buy our potatoes from people who live on land that will grow potatoes nicely and use the land we have been using for this purpose to increase our alfalfa and clover hay acreage.

Our dairy herd has been found to be in part tuberculous. Slaughter of these animals has begun and it is contemplated that about 30 will be lost for present or future use on this account. It is recommended that from 15 to 25 good Holstein cows be purchased to replace these animals. The herd has been subjected to test by a standard dairy association and we have thus been enabled to weed out several unproductive animals and to regulate properly the feeding of the others.

The work horses and mules are not adequate to meet the situation. Some have died and others are old. It is recommended that 4 high grade draft mares be procured not only for the work at present but to start raising colts for future service. The purchase of a tractor this spring met an emergency that saved our farm operations because of the backward season.

It is desired to raise pure bred stock in every place possible because in the end it will be found just as cheap and much more profitable to feed good stock than scrubs. We want to get a start with pure bred Duroc Jersey hogs which breed seems to do well under our conditions, with Shropshire sheep for a like reason and with white wyandotte chickens.

Our hot houses at the farm have been repaired and we expect to get the full benefit of them during the coming winter season. Last winter radishes and lettuce were fed to the entire institution population several times, an addition to the dietary which was certainly appreciated.

The physical plant at the farm needs some alteration. The boilers in the farm power house are old, having been in continuous use for over 20 years. In order to make easier the work of furnishing power and light for the farm and also to anticipate a possible breakdown of the boilers a request will later be made to install new and better type boilers.

There is no place for the proper storage and curing of seed. The chicken houses are run down and inadequate to our needs. The slaughter house where hogs and sheep are killed for institution use is in a dilapidated condition and needs to be replaced by a better building and one in which our rendering tank can be installed so that an economy in that line may be effected. The buildings need painting. Some fencing and some tile under-drainage needs to be done in order to get the highest efficiency out of the farm operations.

It is recommended that additional farm land be purchased so as to furnish pasture for the dairy herd and an increased acreage for feed and forage crops.

CLERICAL AND STORE DEPARTMENT

It is with pleasure that I report that the clerical department is running in a more efficient manner than for some years. The filing and bookkeeping departments have been consolidated with a consequent loss of time in operation. The books are all in balance. The miscellaneous collections turned into the State Treasurer's office amounted to \$78,762.53 for one year. An additional clerk is needed to take over the clothing ledgers and make out clothing requisitions. There is enough work in this department to take the full time of such a clerk.

The store is at present in crowded quarters where it is almost impossible properly to classify the stock on hand. It is planned to move the store into the old laundry when the new laundry is occupied and so obtain much better facilities for systematic handling of the store stock.

The cold storage plant needs some correction, principally because the refrigeration pipes sweat and cause a leakage that is not conducive to best results. We have a rather large root cellar but its construction is such that more or less moisture gathers and prevents the proper keeping of vegetables. We hope to correct this condition by increasing the amount of ventilation and creating an air space between the walls.

GENERAL

The following five employees were called by death during this period: Miss Mattie Corwine, who had for years been a faithful and efficient teacher of music in our school; Miss Elizabeth Shepherst, who was stenographer for many years; Miss Marie Tyler, institution efficiency clerk; Miss Posie Lapel and Mr. Calvin Freeman, attendants. All of these were faithful employees whose passing is much to be regretted.

The difficulties in running an institution during the recent war-time strain and stress have been indeed great. There has been a considerable movement of employees, especially in the domestic and attendant positions. The institution has had to contend with inadequate help both as to quality and quantity. I am glad to report that at this time the situation looks more encouraging. There are more and better applicants for employment than there were several months ago. The action of the department in adjusting salaries to meet the difficulties of living played a large part in this improvement.

DIXON STATE HOSPITAL AND DIXON STATE COLONY

H. B. CARRIEL, M. D., *Managing Officer*

I herewith respectfully submit a brief report on the operations of this institution for the two years ending July 1, 1920.

The first year admissions to this hospital were limited to male adult epileptics. The last legislature changed the character of the institution and provided funds for the erection of buildings for the accommodation of both epileptics and feebleminded. Those buildings already erected are in the future to be used for feebleminded, others yet to be built on another part of the grounds will be used for epileptics. We have endeavored to retain those epileptics who were already here, new applicants being rejected until more buildings are provided.

The institution at Lincoln being greatly overcrowded all available space here was used to relieve that hospital. One hundred forty-five patients were transferred here. Most of these patients were of low grade and incapacitated, both physically and mentally, from doing very much in the way of work.

To help the Department of Public Works and Buildings, doing construction work on the grounds of the institution, ninety insane patients were sent here from other State hospitals to help with this work. Some of these patients have been employed on the farm but the majority of them have been used in the making of concrete blocks, constructing roads, getting stone from the quarry and gravel from the gravel pit. Much credit is due these men for what they have accomplished in the short time they have been here and under rather unfavorable conditions.

The lack of shops or any place to carry on industrial work among patients has been a severe handicap to the institution.

CHANGES IN POPULATION

Epileptics present in institution July 1, 1918.....	33
Epileptics since admitted.....	802
Epileptics discharged	226
Epileptics died .....	....
Feebleminded present in institution July 1, 1918.....	....
Feebleminded since admitted.....	2
Feebleminded transferred from Lincoln.....	165
Feebleminded discharged .....	....
Feebleminded escaped	3
Feebleminded died	2
Insane transferred from other institutions.....	90
Insane escaped	1
Insane returned to other institutions.....	4
Number of epileptics present July 1, 1920.....	95
Number of feebleminded present July 1, 1920.....	162
Number of insane present July 1, 1920.....	85
Total present in institution July 1, 1920.....	342

HEALTH

The general health of the patients has been very good. We have had no epidemics or accidents of a serious nature.

Epileptic patients especially have shown physical improvement. Special medical attention has been given this class of patients and in a limited number of cases this has met with pronounced success but this treatment has not been of such duration that its results can be given in detail at this time.

Dr. L. R. Evans of Dixon was appointed dentist. On account of our small population the full time of a dentist has not been necessary.

The following table shows the work done by the dentist and covers only a portion of the period included in this report:

Examinations	360	Synthetic porcelain fillings.....	30
Amalgam fillings	180	Prophylactic treatments	20
Extractions	159	Fractured inferior maxillary.....	1
Canal fillings	20	Fractured superior maxillary.....	1
Bridge reset	12	Abscesses lanced	4
Plate repairs	3	Miscellaneous	50

NEW BUILDINGS

The last legislature appropriated \$505,000 for the erection of new buildings for feeble-minded and \$225,000 for buildings for epileptics. Plans have been drawn for these buildings. Besides the addition of more buildings to increase the capacity of the institution I cannot too strongly urge that the following buildings be constructed immediately to care for our present needs:

- Shops and equipment for mechanical force.
- Industrial building for the employment of patients.
- Assembly or amusement hall.
- Additional and better water supply.
- Coal storage building and equipment for handling coal.

FARM, GARDEN AND ORCHARD

The institution owns 1,057 acres of land. Of this about 540 acres is tillable. Seventy acres has been set aside for garden purposes and fifteen acres for orchard. This land is particularly good, well situated and can be made very productive. One hundred sixty acres is planted to corn, eighty acres to oats, fifty acres to barley and thirty acres to wheat. One hundred twenty-five acres is hay land. The balance is pasture and wood land and the land on which the buildings are located. For several years this land has been leased and was not taken over by the institution until March, 1920. Considering the poor condition of the land and the difficulty in obtaining farm help the hospital has done quite as well as could be expected but not as well as we hope to do in the future.

IMPROVEMENTS

In the way of recommendations I would repeat what I previously stated in a former report, viz., that for economical and successful management every effort should be made to centralize all activities and the

buildings yet to come should be grouped with this in view. This applies equally to the operation of the farm. The farm houses we have are far apart and some distance from the institution. To maintain and equip three or four such farm buildings will result in continual and unnecessary expense. I would recommend that cottages for farm help be located at some convenient point to all farms near the institution together with barns for horses and buildings for housing machinery.

THE ILLINOIS SCHOOL FOR THE DEAF

H. T. WHITE, *Managing Officer*

Our school work during the last biennial period has been continued with few changes in the corps of teachers and little change in methods of instruction—the plan being to adapt the method to the needs of the child, and all new pupils being given a trial with the oral method. At present we use the oral method and the manual method. Many of our pupils have partial hearing. They should be taught as much as possible by the ear, i. e., by the auricular method.

ACCOMPLISHMENTS

The biennial period has been especially marked by the reinstatement of the physical training department with results during the first year that prove its high value physically, mentally and morally—a department that is vital to maintaining the spirit of the school. We have two teachers of physical training, one for boys and one for girls.

The installation of our motion picture machine is another of the vitalizing influences which mark the progressive spirit of this period. It has been a source not only of pleasure, but of great benefit in educational work. Its beneficial effects are seen in the general information our pupils gain, and also in the material provided for special lessons in language and composition. Several *bona fide* Bible pictures have been shown on Sunday evenings. We hope to have this type of picture once each month. It is our aim to have mostly educational pictures but funny reels are interspersed to please the little folk.

Our graduates and pupils who have left school before completing the course have obtained work at good wages and have had no difficulty in finding and filling useful places in the world. That the work of our school in educating the deaf pays dividends all through life was clearly evident in the prosperous and happy people who attended the reunion of the Alumni, held at the institution June 11-14, 1920. The opportunity for renewing acquaintance, the entertainment features, and the high character of the addresses and discussions made this meeting one long to be remembered.

The action of the Department of Public Welfare in giving credit in the matter of salaries to teachers whose experience has been gained in other schools for the deaf is to be commended. It seems essential to maintaining a high standard that at times we may draw on the experience and ability of other states.

Steps have been taken to bring about a gradual change in the course of study by which a mere schedule of study subjects shall give place to a graduated course based on the principles of mind development. The aim is to teach according to these principles and introduce into our higher grades the study of these principles as well as their application to the building of character and personality.

A social service worker is now employed in this school whose work is divided into six distinct heads—

1. School attendance.
2. Employment.
3. Publicity.
4. Home investigation.
5. Work at the school.
6. Special cases.

This work was started October 1, 1919. We expect it to be very beneficial to the deaf people of our State, especially to our pupils.

During this biennium the main building, including north wing and south wing dormitories and the main dining room has been rewired and new electric fixtures and switchboards installed. The new wires are either in conduit or metal moulding.

Our greenhouse which has not been in winter use for several years is now ready again. New underground steam pipe with suitable insulation has been laid. We expect to have a supply of winter flowers and a fine place to start early garden vegetables.

Five pieces of playground apparatus, swings and slides have been purchased and are now enjoyed by the boys and girls.

IMPROVEMENTS NEEDED

This school is very much in need of four new buildings—

1. A cottage for girls.
2. A cottage for boys.

Some pupils should be taught by the oral method only. Some should be taught by the manual method but the two departments should be kept entirely separate. These two cottages are needed to make the separation possible.

3. A new hospital building. This should be a one story building surrounded by a wide porch. The sick rooms should, so far as possible, be arranged in such a way that there will be plenty of fresh air and sunlight in them.

4. A new gymnasium. This too, should be a one story building provided with basketball floor and swinging bleachers. It should have a modern swimming pool provided with shower baths and dressing rooms for both boys and girls. There should be plenty of modern apparatus.

During the next biennium much of the brick pavement now surrounding the buildings should be removed. Grass, shrubbery, crushed rock drives and concrete walks should be supplied where the brick is now.

A new cold storage and ice plant is absolutely necessary. A new boiler plant will soon be necessary.

THE ILLINOIS SCHOOL FOR THE BLIND

R. W. WOOLSTON, *Managing Officer*

The Illinois School for the Blind begs leave to submit to you its thirty-sixth biennial report which covers the period from July 1, 1918, to June 30, 1920.

PURPOSE OF THE SCHOOL

It is the purpose of the State School for the Blind, located at Jacksonville, Illinois, to give to all the blind children of the State, and also those whose sight is so impaired that they cannot attend the public schools, a good, thorough, and practicable education, to make them resourceful, and so far as possible, self-supporting and independent men and women. To this end the school has been organized, and the pupils are classified so that each one shall derive the greatest benefits during his attendance.

HOW SUPPORTED

The school is supported by the State of Illinois which pays for tuition, Braille text books, board, room, laundry and the necessary medical attention for all pupils in attendance. The only expenses which parents and guardians are required to meet are those for clothing, railroad transportation to and from the school, and a few incidentals which rarely exceed ten dollars a year.

WHO ARE ELIGIBLE

All blind children of school age who are educable, and children whose sight is so badly impaired that they cannot attend the public schools, if residents of Illinois, are eligible as pupils in the Illinois School for the Blind.

The State Compulsory School Law requires all blind children of school age to attend school.

No new pupil can enter the school until he has made the proper application and has been advised by the superintendent that he will be received. Upon receipt of application for admittance to the school, an officer from the institution will call upon the applicant at his home and make all necessary arrangements for his registration.

The school year opens on the second Tuesday in September and closes on the first Tuesday in June.

The school is closed during the Christmas season for a two weeks' vacation and all pupils may go to their homes for recreation and a rest from arduous study.

LITERARY COURSE

The Kindergarten.

The institution maintains a kindergarten school where blind children, only five and six years of age are received. These little folk are instructed in circle songs, games and stories, gifts, modeling, hand-work on paper and loom weaving, the elements of Braille reading and Braille writing.

Blind children should be given every educational advantage possible. If blind from infancy and educable, they should be placed at the age of five or six years in this school where special provisions are made for instructing them, or if living in Chicago, they may be educated in the public schools under the supervision of Mr. John B. Curtis.

The blind children in the home which is poor, must of necessity be left much of the time to themselves. They are deprived of the playful activities which make seeing children robust and strong—this deprivation makes the blind more and more dependent as the years go by. If the blind children are kept at home and indoors when they should be romping about with their brothers and sisters, they will become inactive, and dependent.

If children who are to be educated in this institution can enter at the proper age, the chances of placing them on the same footing with seeing children are very greatly increased. If placed in the school where their limitations are recognized in early childhood, where corrections are made and constant supervision is given, they have many advantages over the child who is kept at home until he is ten or twelve years of age forming habits and traits which are peculiar to blind children. Many parents consider the education of their blind children of greatest importance; they see the necessity of early training and do not wait until the best years for study are past, but sacrifice the pleasure of having them at home under their own care and send them to this school as early as possible and keep them here from the first to the last day of each school term. These are the pupils who stand at the head of their classes, get the most possible from the school and become the best equipped to enter life's struggle. On the other hand, some parents either through neglect or because they dislike to send their children from home take no interest in their education or training but allow them to grow up in ignorance and idleness when an education is offered free of charge by the State of Illinois to every blind child within its borders capable of receiving instruction. We, therefore, urge the parents of blind children to take advantage of this opportunity of giving to their children a thorough education.

Elementary School.

The elementary school embraces eight years' work. In their eight grades the course of instruction corresponds to that of the public schools. Children who have attended the public schools, and through accident or sickness have become blind, are given full credit for the work done elsewhere and are carried in their regular grades here while they are passing through a period of reeducation, that is, while they are learning to read and write in the embossed method used by the blind.

High School.

Course of Study:

FRESHMAN

English.

Latin.

Algebra.

History.

Typewriting.

SOPHOMORE

English.

Latin.

Geometry.

History.

Typewriting.

JUNIOR

English.

French.

Physics.

History.

Commercial Law.

Algebra.

Typewriting.

SENIOR

English.

French.

American History.

Civics.

Economics.

Typewriting.

The curriculum has been carefully outlined to develop the pupils mentally, morally and physically, to make them resourceful, and so far as possible, self-sustaining after they leave the school.

The school makes its instruction in each department as useful and as practicable as possible and at the same time maintains a high standard of classical requirements. The latest and most advanced methods of instructing the blind are continuously and carefully studied so that the children under our care may receive the greatest benefits from the training given.

Mr. Charles A. Hamilton, superintendent of the New York School for the Blind, in an address on "What Our Graduates Do," says the following:

Nothing will ever satisfactorily take the place of that broad cultural training which has for its main purpose the development of the student's mental powers, the sharpening of his mental faculties, the creation of ability to think carefully, reason logically and solve correctly the various problems of life. Neither the specializing of mental training nor any form of manual training will accomplish this result. We admit, of course, that an industrial education is best adapted to the majority of the blind as well as to the majority of sighted students; but that ma-

majority of blind students, however small it may be, who possess this combination of ambition, ability and wisdom to apply knowledge which will enable them to appreciate and use wisely a college or university training, should have at least the same encouragement to prepare for it and the same opportunities to acquire it as are afforded their sighted friends. We cannot measure the influence that an educated sightless man may wield in the world. Education is a boon of the greatest value to any person possessing the ability to acquire it, and especially is it valuable to a blind person who is obliged to live so largely within himself. For such a person there is nothing so efficacious as a liberally trained mind to transmit the black lead of despair into the gleaming gold of hope and the shining silver of contentment.

Enrollment.

During the past biennium there were enrolled in this school 252 pupils; they were classified as follows:

Kindergarten school.....	32	Post graduates.....	9
Elementary school.....	155		
High school.....	56	Total	252

American Braille—Revised Braille.

The systems by which blind children are instructed in this school are the American and Revised Braille. The Revised Braille, which because of its superiority, was introduced three years ago, is year by year to displace the American Braille. It is perhaps the most complete system of reading and writing embossed dots that has ever been adopted for universal instruction in all the schools for the blind in the United States. It is not as difficult to read this system of embossed dots as it may seem. A character may be comprised of one, two, three, four, five or six embossed dots. Whether a character represents a letter of the alphabet, a syllable, a word, a numeral or a musical note depends upon its position in the line, the sign that precedes it, and the space that precedes and follows it. Contractions in this system make it possible for the blind to read nearly as rapidly as do seeing children in corresponding grades.

The process of making Braille books is a very expensive one. Before the embossed characters can be put on paper, they must be stereotyped on brass sheets; these metal plates are then covered with paper of a good, thick quality and run through a press which leaves the impression on the paper. The fact that all schools for the blind have agreed to use the Revised System of Braille and a uniform set of the most modern school books, will simplify the publication of text books for the blind and have a tendency to lower the cost as one set of brass plates for each text will be sufficient for all schools for the blind in the United States. The American Printing House for the Blind, located at Louisville, Kentucky, furnishes this institution with the greater number of school books, classical literature and fiction of all kinds.

CONSERVATORY OF MUSIC

Supplementary to the academic work as described above is the Conservatory of Music in which instruction is given in piano, violin, voice,

pipe organ and wind instruments. Many of our pupils have become splendid musicians and some make that profession their life's work.

Piano.

Our course in pianoforte study grades from the most elementary instruction to quite advanced work. Pupils may begin piano study upon leaving the primary department and unless for some good reason it is found necessary to drop them, may continue during their entire school course. The music in Braille notation available from our own printing office is of the very highest order, including etudes and pieces from the great writers for the piano, so that our pupils are given only the very best grade of music.

Organ.

After four or five courses in piano if a pupil gives evidence of sufficient talent to warrant it, he is allowed to take up the study of the organ. Here again our available literature includes such etudes as those of Carl, Whiting and Buck, besides compositions by all the eminent composers for the organ. The material to be studied is selected with the aim in view to give the pupil a course which will fit him to hold an organ position in the church. When the pupil reaches a certain required standard of advanced work in the piano or organ course, he is permitted to give a recital which partakes of the nature of a graduating recital, although no diploma is given.

Harmony.

Because of the fact that the work in harmony is of necessity slower than that of sighted pupils, our course in this branch covers a period of three years. The text books used are those of Norris and Emery.

Violin.

Violin instruction may be pursued by pupils who have learned the Braille notation, as is true in piano and organ. The Sevcik method of bowing and fingering is taught. The work is begun with the study of Sevcik, Op. 6, and Hohman, followed by Wohlfarth, Op. 45, Book No. 2, and Op. 57, also Kayser and Hermann. Maza's and Kreutzer's etudes are studied as the pupils advance and pieces assigned to pupils according to progress of advancement.

Vocal.

Private voice lessons are taken up after the pupil has reached the seventh or eighth grades and after he has had four or five years' training in the music course similar to that taught in the public schools. The course in voice culture includes technique and the art of singing with such songs, studies and exercises as are considered necessary for the individual; also songs ranging from the very simple ones up to the classics; solo selections from the oratorios and operas, covering in all about six grades. In the grades modern music series by Eleanor Smith

is used as in other schools, except that the notes are read by touch instead of sight. High school pupils study selections from the oratorios and operas and great choral works.

PHYSICAL TRAINING

Physical education is three-fold in its purpose: First, to correct defects of posture, giving better bodily poise and more self-reliance; second, recreative, teaching them how to play, and learning cooperation through organized play; third, to create a normal physical condition and thereby make possible the greatest mental development. The physical work is required of all students.

The class work is divided into eleven groups, five for the boys and six for the girls. These are graded as closely as possible according to the pupils' physical development. The classes have from twelve to twenty pupils, and as much individual instruction is given as time will allow. The advanced students and the younger students have two periods of one hour each, weekly; the youngest pupils three periods of thirty minutes each.

The basis of the work is Swedish gymnastics, combined with light apparatus as Indian clubs, dumb bells, wands; also games and folk dancing, with athletics for senior boys.

INDUSTRIAL

During the past biennium the school has changed and arranged its curriculum, so that the pupils may pursue the academic course which must be the basis for efficiency, but they may supplement it in the industrial department where vocational trades and domestic arts are taught. Many of our pupils become self-supporting through industrial training here. They carry their vocational work in connection with their literary course and upon graduation are given employment in industrial shops and manufacturing plants in Illinois where, according to their ability, they can earn from fifteen to thirty dollars a week. Since we have been successful in placing our pupils in industrial positions where they can earn a livelihood we have enlarged our vocational department and added the most modern equipment. The following are the trades which the school teaches at the present time:

Dictaphone.

During the past two years dictaphones have been installed in the typewriting department and their use has already proved to be very beneficial. Every person who has completed the dictaphone course in this school during the past biennium has been placed in a splendid, remunerative position. The employer of every operator has written to the superintendent of this school that the services are satisfactory in every respect. Each operator holds the position where he was first placed and enjoys the work. Space does not permit us to incorporate statements from the many employees of our blind pupils, but the fol-

lowing is a report from Montgomery Ward & Company, Chicago, under date of November 5, 1920, on three of our blind dictaphone operators:

Miss Augusta Melcher, age 19 years, started to work in our Stenographic Department on July 7, 1919, and has been with us constantly since that time. This girl is a fairly good Ediphone operator and her earnings are approximately \$23 per week. I write approximately, because she is working on a measured output plan with a base wage of \$22 per week and she makes a bonus which averages about \$1. She is younger than the other two blind operators we have, and came to us with less experience and has not yet attained quite the speed in operating that the other girls have. Consequently, her wage is not as high.

Miss Irma Smith, age 24, entered our employ May 12, 1919, and has been in the Stenographic Department since that time. Miss Smith is a very good Ediphone operator and her earnings are approximately \$26 per week. She works on a measured output basis with a base wage of \$25 per week and her bonus averages about \$1 per week.

Miss Ruth Needel, age 25, entered our employ September 22, 1919, and has been in the Stenographic Department constantly since that time. She is a very good Ediphone operator and her earnings are approximately \$26 each week, her base wage being \$25 and her bonus averaging about \$1.

Weaving.

The institution has opened a large department in weaving. The latest and most modern looms have been installed, and instruction in weaving fine fabrics, rugs, and carpets is given to those adapted to that kind of work.

Basketry and Sewing.

In the department of basketry and sewing there are 68 girls enrolled, representing all the grades outside the primary department. This department is being enlarged and special attention is given to the weaving of practicable and useful reed and raffia baskets. During the year each girl is given individual instruction in raffia and reed weaving, sewing, beadwork, crocheting, knitting, etc. The beadwork taught is included only because of the excellent training it affords the fingers of the younger children and those of the older students who come to us with hands unskilled in any sort of industrial work. The girls are taught hand sewing, and later the use of the sewing machine; many of them being able to operate the sewing machine with all the accuracy of a person with sight. The pupils' work is rated according to her alertness, perseverance and willingness, and the neatness with which the work is done. Good work is being done in this department, and we have every reason to believe that there is a future for many of our girls in the industrial field.

Telephone Switchboard Operators.

During the past biennial period arrangements have been made to give instruction in switchboard operating. A number of young men and women have taken this short course. All of them have been employed in positions which pay from sixty to seventy-five dollars a month.

Piano Tuning.

The school maintains a class of twelve young men in piano tuning. This work is carried on as a supplement to their academic course. It requires from two to three years to complete the training. Upon its completion these young men become private tuners depending on their own initiative; they secure pianos to tune in their communities, or are given employment in piano factories.

Fibre Chairs.

A small department for the making of fibre chairs has been opened in connection with Sloyd work. A number of blind men in Chicago have been able to make a livelihood by this trade. Their success has prompted us to give instruction in this industry.

Broom Making.

The industry of broom making is, perhaps, the largest one in which blind men find employment. It is a trade that offers inducements to many men who have become blind late in life, and find it quite impossible to adjust themselves to any other industrial pursuit. This school has trained hundreds of men in broom making who have gone out from the school and made good. At the end of each school year a number of our young men set up their own shops and become self-supporting and independent.

Printing.


The school supports a printing house where Braille music is embossed and sold to the blind musicians of the United States. A catalog of music in Braille or print, from which selections can be made, is furnished musicians upon request. This music is sold at a very reasonable price, in fact, the price charged simply covers the cost of production.

Library.

The school maintains a free circulating Braille library for the benefit of blind readers of the State. This library contains several thousand volumes. Any reader in Illinois may secure these books, free of charge, by making application to the librarian, School for the Blind, Jacksonville. A catalog of the list of books will be mailed to readers upon application for the same.

IMPROVEMENTS

During the past two years thousands of dollars have been spent in improvements. Twenty thousand feet of hardwood flooring have been laid, the interiors of the ten buildings have received two coats of paint, the exterior woodwork of all the buildings has been painted and roofs have been replaced. A splendid addition has been built on the printing shop and a new carpenter workshop has been completed in the last year. Many improvements in dormitories and school rooms have been made and the school as a whole presents a very sanitary and attractive appearance.



RECOMMENDATIONS

In order that we may have better living accommodations and render efficient service to the blind children of Illinois we respectfully recommend the expenditure during the ensuing biennium of \$25,000 for further repairs, \$6,000 for the completion of the hospital and \$45,000 for building a cottage.

SOCIAL SERVICE

DOROTHY DORSEY, *Social Service Worker, Illinois School for the Blind*

The social service work at the School for the Blind includes the visiting of prospective pupils, enforcing the compulsory education law, medical social work and industrial placement.

Whenever we are notified of a prospective pupil, the home is visited and if the child is educable, the parents are advised to send him to the school immediately. If they refuse to educate the child we can enforce the statute which makes it compulsory for blind children between the ages of six and eighteen years to be sent to the State School at Jacksonville.

Since we have had the cooperation of the Eye and Ear Infirmary in Chicago who send representatives to the school to examine the eyes of the pupils, there is some medical social work to be done. The consent of the parents must be obtained for operations, and in some cases, they must be persuaded to pay for glasses after the test has been made here. The children receive the medical attention necessary, either in their own communities or at the infirmary in Chicago.

PLACEMENT OF PUPILS

The industrial placement is of vital importance to the boys and girls who have completed the work at the school. All that have applied for positions have been placed. Two boys are working in Freeport, one at the Structo Toy Factory is making from \$16 to \$18 per week, the other at the Arcade plant, is assembling coffee mills and is making \$20 per week on piece work. Girls working in the Corrugated Paper Factory in Alton for the summer vacation were making \$13.50 per week when they returned for the opening of school in the fall. A dictaphone operator in Alton makes \$18 per week and one in Rockford \$70 per month. All those placed have received the same pay that the sighted person does for the same work.

The most constructive and comprehensive social work for the children of this school has been carried on in visiting the homes, in seeing that the children receive medical attention, and in finding positions for the graduates. Returning the boys and girls from this school to community life, making them self-supporting, and able to take their places as capable members of society.

THE INDUSTRIAL HOME FOR THE BLIND

HOWARD O. HILTON, *Managing Officer*

The outstanding achievement of this institution in the past biennium was the placing of the broom factory on not only a self-sustaining but substantially paying basis, something which had not been done before in the quarter of a century of its existence and which had been asserted and accepted as impossible of accomplishment.

This unprecedented showing is a case of promise ripening into performance for in the last biennial report of this institution it was stated "it is believed that under certain conditions that might obtain, it would be entirely within the domain of probability for the factory to be made a paying proposition, while at the same time doing great work for the blind."

SOME DIFFICULTIES

Moreover it was achieved under adverse circumstances and in a period when some sighted factories lost money, failed altogether or operated on part time in the struggle to keep their organizations together. This was due to hitherto unheard of high prices of broom corn and other raw materials, freight embargoes crippling and in many instances stopping the sales and at times sluggish or stagnant market and to war conditions in general. To add to the difficulties the home had a severe siege of influenza, two-fifths of its population being sick with no nurse, attendant, or resident physician on the payroll.

The broom factory being the chief industry of the institution, and it being generally accepted that industrial shops for the blind cannot be expected to operate without loss, it was believed that no greater work could be accomplished, not only for the good of those employed in the factory but for the industrial blind everywhere, than to have such a demonstration. Consequently the success of the factory was made the big idea during the biennial period. The figures of profit in operation and increase in assets as revealed by the statement compiled by the accountant from the general offices of the department are illuminating indeed.

It should be understood that credit for the gratifying result obtained is not sought individually; it is due all having anything to do with the operation of the factory.

SURPLUS NOT DEFICIT

Another noteworthy financial matter is that the home did not have any deficit in operation for the biennium but closed it as it did the preceding one with a substantial balance in every account, despite the rising tide of high prices running through the period and notwithstanding the fact that less money was appropriated for operating supplies and expenses for the year beginning July 1, 1919, than was actually expended during the year beginning July 1, 1917, when lower prices prevailed.

IMPROVED CONDITIONS

It is gratifying to be able to note that the morale of the home has undergone strikingly noticeable improvement. The degrading use of liquor, all too frequent in the past, has disappeared. There has been more activity in various lines. Individual cases can be cited of residents of the home who idled for years after entering it, becoming employed. The population has been less stationary and plans for increasing its outward movement have been perfected.

In connection with the matter of population it might not be amiss to consider at least briefly the erroneous idea prevailing among those having little more than a surface knowledge of the blind of the home and of the State in general, that those who are here are not mentally competent, the assumption apparently being based on the fact that they are in a charitable institution. In creditable activities of the blind the home is represented. Its broom makers are considered to be among the best of the blind. Its residents appear in public exhibitions, musical, industrial and otherwise, and it has furnished far more than its proportion to achieving efforts of varied kinds in which workers for the blind are interested.

WHY MANY STAY

Here the inmates live in sanitary conditions, have good and abundant food and delicacies are not unknown, they enjoy high-grade entertainments, have newspapers, magazines and fiction read to them regularly, have freedom from economic worry, with attentive care when they are sick and personal service in many ways that they could not hope to buy outside, with opportunities for many of those able to work to earn far more than spending money.

Notwithstanding all said in the foregoing there are people in the home who are not adaptable to its life and some other provision should be made for them. In addition, constant care should be exercised that undesirables are not slipped in, if, as said in a preceding report, "it is, in the words of the act which created it, 'to promote the welfare of the blind by teaching them trades and affording them a home and such employment as shall best tend to make them self-supporting,' and if it is to be responsive in greater measures to the high hopes and lofty purposes of the noble minded ones who wrought its establishment."

NEW INDUSTRIES PLANNED

A few months before the close of the biennium the factory was made a distinct division of the institution with the purpose of introducing new industries in connection with the manufacture of brooms, and the chief of that division doubtless will present ideas having to do with its needs and work.

ILLINOIS SOLDIERS' AND SAILORS' HOME

COLONEL JOHN W. REIG, *Managing Officer*

I hereby respectfully submit the following report covering the two-year period beginning July 1, 1918, and ending June 30, 1920.

During the period covered by this report the management of the home was under the able direction of Mr. John E. Andrew, who tendered his resignation to the Department of Public Welfare in the latter part of August, 1920, when he concluded seven years of service in that capacity. That his services as managing officer have been acceptable to the department, is shown by their words of praise and commendation.

Upon receiving my appointment as managing officer on September 1, 1920, I found upon my arrival at the home, considerable speculation as to the future, among the members of the home, because the appointment of a World War and Spanish War veteran as the guiding hand, was the first departure from having a Civil War veteran at the head of the home.

Their fears of a radical change, and that "military discipline" would again be the order of the day, were quickly dispelled.

I found the heads of the different departments to be very efficient and I am indebted to them for their splendid cooperation in all things pertaining to the management of the home.

STATISTICS

Many thought, years ago, that in a few years, this home would not be needed. Statistics of attendance and membership will prove that there has been but a slight decrease:

	Present	Present and absent.	Total.
June 30, 1918.....	1,016 men, 257 women.	1,277 men, 430 women—	1,707
June 30, 1919.....	941 men, 284 women.	1,261 men, 455 women—	1,716
June 30, 1920.....	787 men, 258 women.	1,131 men, 472 women—	1,603

While our enrolled strength has slightly decreased our actual present has shown a greater decrease. This is due in a great measure to the increased pensions allowed by the government, thus enabling members to take more advantage of furloughs.

The attendance and enrolled strength on the last day of each year show:

	Present.	Enrolled.	Total.
Dec. 31, 1918.....	1,078 men, 324 women.	1,273 men, 444 women—	1,717
Dec. 31, 1919.....	1,042 men, 365 women.	1,263 men, 504 women—	1,767

an actual gain of five in present and fifty in enrolled strength.

vision should be made for at least two more workers in the parole department.

SCHOOL DEPARTMENT

The average daily attendance in the academic department for twenty-four months was 251. This number does not include the girls suffering from venereal diseases, of which there have been many, the hospital cases, the girls in the discipline cottage and those under admission quarantine. The absence of many girls from the school during the influenza epidemics and of three grades for several weeks when teachers were not available, makes the average daily attendance unusually low.

The average ages are as follows:

Grammar grades	15 years, 2 months
First year high school.....	15 years, 6 months
Commercial	15 years, 6 months
Industrial	16 years, 8 months
Sewing	16 years, 2 months

There has been considerable difficulty in procuring teachers. The fifth and sixth grades were out of school on this account for one and a half months. The commercial class was without a teacher for two months.

On September 8, 1919, a physical culture teacher was added to the staff.

The principal of the school was given time to take the Globe-Wernicke course in filing and indexing in Chicago. Filing cases have been improvised and that subject has been added to the commercial course. An entire set of up-to-date files will be requisitioned as soon as possible so that the girls taking this course will be fully prepared to meet the requirements of any office. Five new Underwood typewriters and a Burroughs' comptometer have been procured. With the addition of the filing, indexing and the work on the comptometer, the commercial course is quite complete.

Only girls who have graduated from the eighth grade are eligible to the commercial class which has been made an honor class. It has proven an incentive to the higher grade girls of the school and I feel that we have accomplished much in this department.

Five hundred and eighty-eight volumes have been added to the school library, all of which have been catalogued by title and author. A fund is available by which additional books may be bought every six months. The books are issued to the cottages monthly and a cottage librarian is made responsible for the books received.

An appropriation of \$25,000 was granted by the last legislature for the building of an addition to the school house. On account of the great advance in price of building materials and labor, the appropriation was found to be inadequate so the work has not progressed beyond the blue prints. It is our desire that an additional appropriation be asked for at the coming session of the legislature for the building of one wing of the proposed addition, which will include a domestic science labora-

tory, sewing class room and an industrial class room. This will centralize the classes in the school building, simplify supervision and vacate room which is needed for the establishment of a new family of girls on one or both floors of the south wing of the administration building.

INDUSTRIAL DEPARTMENTS

One carpet loom and six braid weave (hand looms) have been added to the equipment of the industrial department. On the carpet loom corridor runners and small rugs have been made with filling of roving or jute. These have been substituted so far as possible for carpets and rugs which our appropriation would not permit us to purchase.

Basketry is now being taught and instructions in mending and hand sewing have also been added. Each girl is required to produce a satisfactory sample of all kinds of mending, darning and hand stitches. These samples she arranges in a book which must be satisfactorily completed before she is permitted to leave the class.

For the past year all of the hats worn by girls going on parole have been made in the millinery department of the industrial class. Frames and materials are purchased at wholesale and the hats are made by hand and trimmed. The result is that a fascinating occupation is afforded the girls and much better hats are furnished to those going out at a cost below that at which hats were formerly purchased.

For two years the wool produced by our sheep has been washed, carded by hand and made into comforts by the girls of the industrial class. We hope to continue this work until not only each officer's room, but each girl's room is supplied with a wool comfort. The saving of the purchase price of wool blankets is a large one and the comforts produced are somewhat of a luxury.

It is our desire to increase the equipment of the industrial department and add another instructor so that more individual attention can be given to the instruction of girls in occupations of this type which will enable them to be self-supporting when they leave the school. We feel that this department has not yet been sufficiently developed.

Several new sewing machines have been purchased for the sewing class. This work has gone on practically without change. Not much development can be expected with but one teacher who is required, with the help of the girls, to make all of the clothing worn by girls going on parole. She has no time to devote to instructions in cutting, fitting and designing. When another sewing teacher is obtained and the school house enlarged, a regular class in sewing will be instituted.

MEDICAL WORK

The entire population of the school has been vaccinated against smallpox, typhoid and para-typhoid without untoward results, although there were a few severe reactions from the latter.

We are now endeavoring to have throat cultures made for each newly admitted girl.

In place of three treatments a week, which was formerly the practice, daily treatments for Neisserian cases have been instituted recently at the hospital which has greatly hastened improvement.

Wassermann tests are made in all newly admitted cases and for girls returned from parole and escape. In all syphilitic cases a Wassermann test is made every three months in order to determine the progress made and treatment is continued, even though the Wassermann tests may later be returned negative, during the entire time the girl remains in the school. Girls are instructed in the necessity of continuing treatment and of having blood tests made after they leave the school.

The treatment of leptic cases consists of mercury by innuoculation and hypodermic injections, also potassium iodide by mouth. Neo-salvarsan will be used as soon as facilities for the administration have been procured.

Seventy-four cases of tonsils and adenoids and one radical mastoid operation have been taken care of at the Illinois Charitable Eye and Ear Infirmary in Chicago. Arrangements have been made for these operations to be performed in our own hospital by the State Surgeon.

Several cases of abdominal surgery have been cared for by the State Surgeon at the Elgin State Hospital, and an occasional emergency case at the Colonial Hospital in Geneva. The latter operations have been performed by Dr. R. G. Scott without charge.

DENTAL DEPARTMENT

A resident dentist has given full time to the care of the girls' teeth and in instructing them in oral hygiene. Every case was taken care of in the institution except one impacted third molar which required the attention of an extraction specialist.

POWER PLANT

The power plant, which was in such deplorable condition two years ago, has been completely overhauled. The old boilers were replaced by used ones from the old power plant at Dunning and while not as efficient as new boilers, the change enabled us to save about 1,300 tons of coal on the two-years' contract.

The engines and pumps have been put in good repair. During the coming biennium a more efficient pumping system and one which will incur less expense to operate, should be installed.

The plumbing which was formerly in bad condition and which was further damaged while the power plant was not operating during the severe cold weather in 1917-1918 has been repaired.

Much of the cable of the lighting system has been renewed but there is further work to be done when materials can be obtained. It is our plan to run the lighting cables in the tunnel.

The steam main from the tunnel to Illinois and Lincoln Cottages has been enlarged so that an adequate supply of heat can now be furnished to these cottages which have suffered heretofore.

The refrigerating plant has been completely overhauled and gives excellent service for so small a unit.

FARM, GARDEN AND DAIRY

The gardens were never more productive than during the past biennium. All kinds of vegetables were abundant in season and large quantities were canned, preserved and dried for winter use. All of the work was done by one matron and the girls under the direction of the gardener. Strawberry, asparagus and rhubarb beds have been made and produced well this spring.

An addition to the root cellar is much needed for storage of vegetables.

The total value of garden products, estimated at market prices, was a little over \$18,000.

As an adjunct to the garden and as a labor saving and economic arrangement which will give another occupation to the girls, we hope during the next year to establish a central cannery and dehydrating room.

In the second year of the biennium, the farm produced somewhat better than the first year and the number of hogs and sheep raised each year was an increase over the year preceding.

Practically the entire dairy herd was tuberculous and was sold to be slaughtered. Seventeen of the twenty-three cows slaughtered were found suitable for food. The dairy barns and lots were thoroughly disinfected and the portion of the horse barn used as a cattle shelter, was rebuilt and was disinfected before the clean herd of twenty-three cows was received.

RECREATION

Since the services of a physical culture teacher have been available, setting up exercises and calisthenics have been instituted in the class rooms at school at the beginning of each half-day session. The girls of every cottage have a half hour instructions in the gymnasium twice a week.

At least one hour a day is set aside for recreation which is spent out of doors when the weather permits. There is also some time at noon and between supper and the daily study hour for additional recreation. On every cottage an indoor baseball team has been organized and in good weather several games are in progress every afternoon between four and five o'clock.

Competitive games between cottages have afforded a great deal of fun and I think have improved the general morale of the institution.

A baseball banner was awarded the winning cottage at the end of the season. An honor penant is awarded each month to the cottage having the highest grade for general deportment and efficiency in school, cottage, chapel and on the grounds

The physical culture teacher assists in preparation of school entertainments and her work has been highly commendable.

Movie shows are scheduled for Saturday afternoons every two weeks. The programs are varied. Among the films used were a number of those by Marguerite Clarke, Mary Pickford, Douglas Fairbanks, Burton-Holmes Travelogues, "Bluebird," "Mrs. Wiggs of the Cabbage Patch," "Seven Swans," "Cinderella," "Hulda from Holland," "Freckles," "Uncle Tom's Cabin," "Davy Crockett," etc.

An entertainment is given each month by one of the classes in school. During the spring, summer and autumn, the cottages frequently have dinner or supper on the lawn or in the woods nearby. Groups of girls are frequently taken to the woods by their teachers.

One evening each week the entire school gathers on the lawn near the school house or the chapel for community singing.

RELIGIOUS SERVICES

The program for religious services is as follows:

Sunday, 7 a. m.—Mass for Catholic girls and officers.

Sunday, 10 a. m.—Sunday School for all Protestant denominations conducted by Miss Jennie Beardsley, deaconess, Chicago.

Sunday, 3 p. m.—Protestant services at the chapel conducted by representative ministers from Geneva, Batavia, Aurora and Elgin.

Sunday, 3 p. m.—A class in religious instructions for Catholic girls held in the school house.

Wednesday, 4 p. m.—Lutheran services.

Thursday, 4 p. m.—Bi-weekly Jewish services.

Friday, 4 p. m.—Episcopalian services.

REPAIRS AND IMPROVEMENTS

Minor repairs and improvements have been made such as building of concrete walks, inside and outside painting, rebuilding of brick work on the porch pillars of several of the cottages, repairs of roofs and sheet metal work, straightening of doors and transoms throughout Hope and Geneva Cottages, made necessary by the settling of the buildings, and swinging the doors in the discipline cottage so that they open into the corridors rather than into the rooms.

Harvey Cottage, which had been abandoned for many years, has been completely remodeled and rewired by our own workmen and is now ready for occupancy as a staff building.

The cost of all material purchased for this building was a little less than \$500.

The new building which has been done by contract is, I believe, familiar to the department and will not be enumerated.

SUGGESTIONS FOR DEVELOPMENT AND IMPROVEMENT

It is our desire to remove from the routine of the work in the cottages the heavy manual labor which is of little or no advantage in the way of training for the girls and is a great burden to the housemothers who have charge of the kitchen departments.

To this end a temporary bake shop has been provided in which all of the bread used in the cottages is baked. An appropriation will be requested for a permanent and properly equipped bake shop.

A central laundry should also be established with one in charge who is capable of giving instructions in machine and hand laundering. In this way girls could be taught this work which would enable them to secure positions in general laundries after leaving the school as well as the finer hand laundry for which they could receive good remuneration.

We wish also to establish a central cannery and dehydrating plant and a dairy room. This would lighten the work of housekeeping matrons and I think we would have less difficulty in procuring suitable people to fill these positions than we have had in the past.

An isolation hospital for which an appropriation of \$25,000 was granted by the last legislature should be built.

Illinois and Lincoln Cottages, which are used as receiving and discipline cottages are well located for a receiving cottage and hospital. Since there is no regular hospital building or receiving cottage which was designed for that purpose, I should like this double cottage to be remodeled and enlarged to meet the requirements of a reception cottage and a hospital. Then the building which is now used as a hospital, and which is somewhat remote from the other cottages, could be used for the disturbed and incorrigible girls.

A new hog house is needed.

Coal storage should be provided.

The root cellar should be enlarged.

At least one wing should be added to the school house as suggested earlier in this report.

In some way the hours of the managing matrons should be shortened or an adequate salary paid so that more people who are suitable for these positions could be procured.

ILLINOIS STATE PENITENTIARY

E. J. MURPHY, *Warden*

Herewith I submit my report as warden of the Illinois State Penitentiary for the term ending September 30, 1920.

During this period there has been substantial progress in most of the departments of the institution, notably in the construction work at the new prison, and in the developments at the State Farm.

The old prison is under the handicap of antiquated buildings and equipment, but nevertheless has maintained a fair average in its industrial output and other activities.

Looking into the future, it is apparent diligent effort will be required to meet some of the problems. The shifting of the prison population, due to the increasing demands of the new prison and the State Farm, will have a marked effect on the task of maintaining the old prison industries at a profitable degree of efficiency. This problem will doubtless continue until the old prison has been abandoned for the new.

There are also complex difficulties involved in the dual administration of the old and new prison, and together with the attention that must be given the State Farm, creates a situation that must be carefully considered in order to secure desired results.

Through increases in the wage scale for officers and keepers, brought about in conferences during the past year, the morale as well as the numerical strength of the force has been stabilized to some extent, although there is still much to do along this line in the way of building up a loyal, efficient force of guards and keepers.

The return of more normal conditions, and the exercise of proper judgment in the selection and handling of the employees, will prove a great factor in creating and maintaining that degree of prison discipline absolutely necessary in a successful administration of affairs.

The progress made at the new prison will, in all probability, be fully set forth in the report of the new Penitentiary Commission, and details of that work will not be necessary in this statement.

PROGRESS AT NEW PRISON

The completion of the first cell house in the spring of 1920 enabled the administration to place about 400 prisoners at the new prison permanently. This, in turn, made it possible to accomplish a greater amount of work per day, and, as a result, more progress was made in the construction plans in 1920 than during any previous year.

Before the inmates were located there permanently, it was necessary to transport the men in trucks daily, between the old and new prisons, and this delay seriously handicapped the working hours.

Briefly, the results at the new prison show the concrete wall about three-fourths finished; one cell house, the laundry and bath rooms, and the water tower completed; foundations under way for another cell house unit and also for the main dining room; the detention cell house nearly ready for use; a substantial start made on the large cold storage plant, and other preliminary work inaugurated. The original 12-inch artesian well, down 1,200 feet, has been supplemented by a 15-inch well, now down about 1,600 feet.

PRODUCTION

Conditions and prospects at the State Farm are very gratifying. The reports show that the crops during 1920 were a little above the average, and the plans for 1921 are on a comprehensive scale.

Alfalfa and timothy hay, straw, silage, oats, rye, barley, wheat, corn and sorghum molasses are among the products at the State Farm proper. Over 21,000 bushels of oats were harvested, while the rest of the yields were in fair proportion.

There was an extensive cultivation of garden produce. Roughly speaking, there was raised in 1920 about 150,000 pounds of vegetables. In other classifications, the figures show, 10,768 crates, 7,112 bushels, 3,918 dozen, 1,281 bunches, 1,240 gallons and 532 quarts, covering all kinds of produce.

Some of the more prominent items are: 86,933 pounds of cabbage, 18,287 pounds of string beans, 14,440 pounds of pumpkin, 13,473 pounds of squash, 2,052 bushels of carrots, 2,001 pounds of egg plant, 2,421 crates of beets, 2,176 dozen of cucumbers, 5,367 pounds of cauliflower, 3,759 bushels of dry onions, and 1,552 crates of green onions.

From this farm produce, the prison has put up the past season over 12,000 gallons of canned goods. The list includes 7,650 gallons of tomatoes, put up in five-gallon tin cans, specially made for this purpose; 2,400 gallons of sauerkraut, 10 barrels of pickles, and hundreds of gallons of other produce.

In live stock the State Farm has steadily increased its assets. There has been an average of nearly 600 hogs, 167 cattle, 36 horses and 28 mules on the place, besides 1,200 chickens, over 200 ducks (wild and tame), 113 geese, 85 turkeys and 28 guinea hens.

Based on the estimated acreage and production for the year 1921, a much larger yield of grains as well as garden produce may be anticipated.

At this writing 650 acres have been plowed. The foundation for a brooder house that will take care of 5,000 chickens has been laid. A steel and concrete silo, 16 by 50 feet, has been completed for the dairy department. Work is under way on the boundary fence for the entire farm, to extend over a stretch of 12 miles.

The pending plans embrace a machinery shed, a hog house and a dairy barn, as well as other important and necessary improvements.

There are now 73 prisoners at the State Farm regularly. In addition to this force, a daily detail of 30 men has been sent out from the old prison under special guard, to assist in the harvesting and other general farm work.

PROGRESSIVE MERIT SYSTEM

One of the important steps decided upon by the Department of Public Welfare during 1920 was the grading and classifying of all inmates in the penal institutions of Illinois, through what is termed the Progressive Merit System.

The plan embraces five grades, with percentage markings that afford opportunity to keep in touch with the behavior and workmanship of each inmate, and determine whether he is fitting himself again to resume his place in the outside world. The affairs of the system are conducted by a staff, composed of prison officials.

In the Joliet Penitentiary, this staff was organized in March, 1920, and the work of grading and classifying the inmates has been completed. The case of every prisoner in both the old and new prisons, as well as those at the State Farm, has been reviewed, and the Progressive Merit System is in full operation.

As the system provides for special good time, reducing sentences beyond the allowance heretofore granted, its inauguration has excited a notable degree of interest among the prisoners; and the future developments will doubtless have a marked bearing on the deportment and industrial efficiency of the men.

Concurrent reports give pertinent figures regarding the industrial activities of the institution, the movement of the prison population, library, hospital, etc.

INDUSTRIAL OPERATIONS

The industrial reports show that for the two years ending June 30, 1920, the furniture factory turned out 74,147 pieces of finished product, the reed and rattan department 33,385 pieces and the shoe department 67,205 pairs of shoes.

Owing to war restrictions, shortage of guards, etc., the output of the quarry was greatly curtailed. Conditions have lately improved, and requisitions for crushed stone, both for State institutions and the Division of Highways, are now being filled.

The net sales in all the industrial departments, including the State Farm, for the year ending June 30, 1920, totaled \$396,665.02.

The report on the prison population gives complete data for the two-year period ending September 30, 1920. The average prison population in 1919 was 1,398, and in 1920, 1,565.

REPORT OF CHAPLAIN-LIBRARIAN

ANDREW J. PATRICK

I hereby submit a report to you as Chaplain, Librarian and Director of Prison Schools. My work is principally concerned with the religious and educational interest of the prisoners, and in every instance, I have tried to do my duty as I have seen it in the light of the needs of the prisoners.

RELIGIOUS

I hold services at the old prison every other Sunday morning, both for the men and women, and the new prison the alternate Sundays. These services are well attended, and the prisoners pay close attention to the services, and I am inclined to believe that many of them are helped thereby to a better life. These services are not compulsory, but we have in attendance some 900 to 1,000 men. I have five classes at the first service for religious instruction in our Sunday School, and they number some 150 to 200. I have secured five leading men from the city of Joliet as my teachers, and there can be no question but that much good is derived from their work and labor among the prisoners. Major M. A. Messlein of Chicago, and Professor J. M. Thompson, supervisor of music of the city schools of Joliet have also rendered valuable help to me. The conduct and attitude of the prisoners toward me has been splendid, and I am convinced that a great number of the men have been lifted to a better life. I visit the hospital as often as it is practicable, and administer to the wants of the sick and afflicted.

LIBRARY

The library of the Illinois State Penitentiary is the largest of its kind in the United States, containing some 23,000 volumes. The library is open from morning till evening, and with my prison help, we distribute some 5,000 books each month to the prisoners in their cells. To me the library is the best asset to the institution, and the books are in much demand by the prisoners. During the past year, we have purchased some 573 new books, and about that number have been added by donations, so there has been an addition of about 1,000 books. I also have charge of the book bindery, and when a book needs repair it is sent to the bindery. In all we have repaired some 600 books in the last year.

The library is catalogued under thirteen classifications, each classification having several subdivisions. They are as follows: General Works, Religion, Philology, Fine Arts, Literature, Fiction, Philosophy, Sociology, Natural Science, History, and Miscellaneous. A catalogue, Bible, dictionary and slate are placed in each cell. The prisoners all have the opportunity to purchase books from the publishing houses, as well as to subscribe for papers and magazines.

During the five winter months in the year, I conduct a prison school for the illiterates, and on up to the fifth grade, and there are 140 in attendance. The school is held from five until seven o'clock in the east and west school rooms of the cell houses. In addition to our evening school, there are a few that are taking correspondence courses in some of our universities. All this work is under my supervision, it is very satisfactory and the men are being helped to see things in a new light. Many that cannot read and write when they enter the school are soon able to write and read the English language. I have a number taking studies in Spanish, French and German.

The educational feature of the prison is one of the best assets to an institution of its kind, and many are taking advantage of reading good books. One of the best signs of the reformation of an inmate in prison is the mental attitude he takes in reading and studying. As crime is so often the result of ignorance and laziness, it necessarily follows that education is a possible preventative for both, because a lazy man will not devote himself to hard work in his studies. In our school we lay special emphasis on good reading and citizenship.

REPORT OF CATHOLIC CHAPLAIN

LEO KALMER, O. F. M.

Following is the biennial report of the Catholic Chaplain of your institution.

Forty per cent of the inmates are Catholics. Of these 29.7 per cent attend mass, 34 per cent make their Easter duties and 9.3 per cent receive monthly communion.

Cook County, whence 53 per cent of all prisoners at Joliet are sent, is, according to the estimate of the Municipal Court Reference Library, 57 per cent Catholic. Yet Catholics form but 50 per cent of all prisoners from Cook County.

SERVICES

On alternate Sundays the Catholic Chaplain conducts services at the old and new prisons. They consist of mass and sermon for Catholics, general service for all and another general service at the Women's Prison in Joliet or at the farm in Lockport. The services at the farm were not so regularly held because of lack of interest and attendance on the part of the prisoners. To accommodate the few Catholics at the Women's Prison and at the farm a fourth service of mass and communion was held at these places from time to time. Such a public ministration continued for four to five hours causes no light mental and physical strain.

To bring variety and interest into the services we at times brought in other priests, and every Sunday procured outside talented singers and musicians to lend their services.

For the consolation and spiritual good of foreigners we invited priests conversant with their mother tongue to interview and to shrive them.

The hospital and the sick were visited regularly and the more serious the malady the more frequent were the visits. Especially during the influenza epidemics we spent much of our time by day and night amid the suffering and dying.

To get reliable records we interviewed every prisoner registered as a Catholic. We noted the religion of the prisoner's parents and himself, his schooling, previous church attendance and family relations. We recorded especially the motives leading up to his fall.

ACCOMPLISHMENTS

During the last biennium 4,830 interviews were granted at the Catholic Chaplain's office, at the Women's Prison, the new prison and the farm. Prisoners were called for record information, for religious instructions, confessions and guidance. They requested interviews, among these many non-Catholics, for enlightenment, for settling of discussions and disputes, for consolation and advice, for help as to themselves, as to their wives and children, home or business. They sought help to regain their liberty, to get signers of parole papers, to obtain work, references and recommendations. This necessitated the writing of hundreds of letters, many visits and phone-calls to relatives, friends, attorneys and authorities.

Moreover, we distributed over 21,000 religious newspapers, dailies and weeklies; over 25,000 leaflets, booklets and pamphlets; furnished to all who desired them a prayerbook and beads. Hundreds of prisoners used the books from the Catholic Chaplain's library and imbibed solid religious and moral doctrine and principles. Since second-hand literature is barred, all this literature had to be new and had to come directly from the publisher. This, again, entailed a considerable expense, borne by private individuals and benefactors of the prisoners.

REPORT OF PRISON PHYSICIAN

W. R. FLETCHER, M. D.

I herewith submit my report covering the medical department for the two years ending September 30, 1920.

The physician's duties pertain to the maintenance of the good health and physical condition of the inmates.

In preparing this report the writer has endeavored, as in the past, to present a practical, up-to-date, and compact statement.

I am, indeed, highly gratified to state that it has been the aim of the officials of this institution to administer to the wants of the inmates all that is possible and consistent; that is, in keeping with wisdom, as to good working conditions, food, pure water, clothing, ethics and sanitary environments.

Due attention had been paid to all the appeals of various kinds in all matters; also relating to treatment, surgical or medical. The writer has aimed at presenting wholesome, conservative and practical directions.

I once more desire to call your attention to the ever prevailing fact relative to the large number that enter this institution who are only fit subjects for institutions for the criminally insane. This is not wholly the fault of the trial judges, but rather those who build up the cases.

The facts are there: It reduces this place to a clearing house for those that are held here in the detention cells until they can be assigned elsewhere, and the duration is months. This creates conditions with which it is very difficult to cope, whether in the direction of protection or cure. It will, I hope, be conceded that my views on this subject have not been formed hastily nor without the most open-minded scrutiny. While I have all along held the profoundest belief that some day this would be abolished entirely, it is not without a grave sense of responsibility, and with no small amount of diffidence that I have felt constrained to advance my views on this all important subject.

Referring to the mortuary sheet, please observe that twenty-one of those listed were "flumonia" cases, seven were coroners' verdicts and nine were tuberculosis.

Relative to the women's department; although the monetary accounts have been severed, as to drugs, etc., we are still called upon to supply them, and it is one of our most expensive items.

ILLINOIS STATE PENITENTIARY HOSPITAL—BIENNIAL STATISTICAL STATEMENT,
PERIOD ENDING SEPTEMBER 30, 1920.

Months.	Number treated.		Number deaths.		To Menard.		Days lost in hospital.	
	1918-1919	1919-1920	1918-1919	1919-1920	1918-1919	1919-1920	1918-1919	1919-1920
October.....	99	53	2	2			951	723
November.....	132	52	12	1	7	5	1,013	693
December.....	31	51					560	588
January.....	55	70	2	1			583	512
February.....	49	137	1	10	5		727	1,379
March.....	74	74	1	2		3	992	702
April.....	57	53	2				431	608
May.....	48	55	1	2	7	6	453	571
June.....	53	69		1			717	705
July.....	52	53		2			678	591
August.....	57	56		3			626	507
September.....	49	64	1	4			687	505
Total.....	756	787	22	28	19	14	8,418	8,084

RECAPITULATION—FIRST YEAR.

Cases treated.	Treated.	Discharged.	Deaths.	Remaining.
Class 1. Circulatory system.....	6	5	1	.....
Class 2. Digestive system.....	72	72	.....	.....
Class 3. Ear, eye, nose and throat.....	30	30	.....	.....
Class 4. General diseases.....	59	57	.....	2
Class 5. Genito-urinary diseases.....	8	7	1	.....
Class 6. Mental and nervous diseases.....	61	60	1	.....
Class 7. Respiratory system.....	208	193	15	.....
Class 8. Skin and venereal diseases.....	4	4	.....	.....
Class 9. Surgical cases.....	66	62	4	.....
Total.....	514	490	22	2

RECAPITULATION—SECOND YEAR.

Cases treated.	Treated.	Discharged.	Deaths.	Remaining.
Class 1. Circulatory system.....	5	4	1	.....
Class 2. Digestive system.....	139	132	3	4
Class 3. Ear, eye, nose and throat.....	51	50	1	.....
Class 4. General diseases.....	238	235	1	2
Class 5. Genito-urinary system.....	3	2	.....	1
Class 6. Mental and nervous diseases.....	45	45	.....	.....
Class 7. Respiratory system.....	36	15	18	3
Class 8. Skin and venereal diseases.....	6	6	.....	.....
Class 9. Surgical cases.....	62	58	4	.....
Total.....	585	547	28	10

CLASS NO. 1—CIRCULATORY SYSTEM—1918-1919.

Cases treated.	Treated.	Discharged.	Deaths.	Remaining.
Mitral regurgitation.....	5	5	.....	.....
Myocarditis.....	1	.....	1	.....
Total.....	6	5	1	.....

CLASS NO. 2—DIGESTIVE SYSTEM—1918-1919.

Cases treated.	Treated.	Discharged.	Deaths.	Remaining.
Gastritis.....	11	11	.....	.....
Gastritis, chronic.....	5	5	.....	.....
Enteritis.....	15	15	.....	.....
Gastric ulcer.....	1	1	.....	.....
Appreniditis, catarrhal.....	1	1	.....	.....
Diarrhoea.....	13	13	.....	.....
Gall stones.....	1	1	.....	.....
Peritonitis.....	1	1	.....	.....
Dysentery.....	22	22	.....	.....
Ptomaine poison.....	2	2	.....	.....
Total.....	72	72	.....	.....

CLASS NO. 3—EYE, EAR, NOSE AND THROAT—1918-1919.

Cases treated.	Treated.	Discharged.	Deaths.	Remaining.
Tonsilitis.....	19	19	-----	-----
Tonsilitis, acute.....	2	2	-----	-----
Infected eye.....	1	1	-----	-----
Infected eye socket.....	1	1	-----	-----
Conjunctivitis.....	2	2	-----	-----
Coryza.....	5	5	-----	-----
Total.....	30	30	-----	-----

CLASS NO. 4—GENERAL DISEASES—1918-1919.

Senility.....	1	-----	-----	1
Tuberculosis left limb.....	1	-----	-----	1
LaGrippe.....	29	29	-----	-----
Rheumatism, muscular.....	2	2	-----	-----
Rheumatism.....	19	19	-----	-----
Malingering.....	2	2	-----	-----
Tapeworm.....	1	1	-----	-----
Tubercular glands.....	4	4	-----	-----
Total.....	59	57	-----	2

CLASS NO. 5—GENITO-URINARY SYSTEM—1918-1919.

Chronic intestinal nephritis.....	2	1	1	-----
Diabetis.....	1	1	-----	-----
Cystitis.....	1	1	-----	-----
Stricture.....	3	3	-----	-----
Stricture of urethra.....	1	1	-----	-----
Total.....	8	7	1	-----

CLASS NO. 6—MENTAL AND NERVOUS DISEASES—1918-1919.

Dementia.....	1	1	-----	-----
Epilepsy grand mal.....	1	-----	1	-----
Epilepsy.....	3	3	-----	-----
Sciatica.....	1	1	-----	-----
Observation.....	54	54	-----	-----
Mental insufficiency.....	1	1	-----	-----
Total.....	61	60	1	-----

CLASS NO. 7—RESPIRATORY SYSTEM—1918-1919.

Tuberculosis of spine, and meningitis.....	1	-----	1	-----
Pleurisy.....	2	2	-----	-----
Influenza.....	176	171	5	-----
Pulmonary tuberculosis.....	16	14	2	-----
General tuberculosis.....	1	1	-----	-----
Pneumonia.....	8	1	7	-----
Pneumonia, lobar.....	1	1	-----	-----
Acute asthma.....	2	2	-----	-----
Bronchitis.....	1	1	-----	-----
Total.....	208	193	15	-----

CLASS NO. 8—VENEREAL AND SKIN DISEASES—1918-1919.

Cases treated.	Treated.	Discharged.	Deaths.	Remaining.
Syphilis of the brain.....	1	1		
Chancre, rubose.....	1	1		
Dermatomy.....	1	1		
Facial erysipelas.....	1	1		
Total.....	4	4		

CLASS NO. 9—SURGICAL CASES—1918-1919.

• Infections.....	3	3		
Gunshot wound, left limb.....	1	1		
Appendicitis operation.....	1	1		
Sprained back.....	4	4		
Cut on face and burns on hand.....	1	1		
Steel in eye.....	1	1		
Abscess of gum.....	2	2		
Hernia.....	1	1		
Bullet removed from back.....	1	1		
Infected jaw.....	6	6		
Rectal operation.....	1	1		
Infected hand.....	1	1		
Contused ankle.....	1	1		
Burns and contusion.....	1	1		
Bruised toe.....	1	1		
Injury received escaping (fall).....	1		1	
Contusion of head.....	1	1		
Contusion and sprain of knee.....	1	1		
Contusion of scalp.....	1	1		
Contusion of hip.....	1	1		
Contusion of foot.....	1	1		
Stab wound in back.....	1	1		
Contusion and laceration of back.....	1	1		
Testical.....	1	1		
Tubercular glands.....	4	4		
Burned hand.....	1	1		
Gunshot wound, left forearm.....	1	1		
Broken arm, jumping from gallery.....	1	1		
Bruised face.....	1	1		
Enlarged left testical.....	1	1		
Removal of dead bone from skull.....	1	1		
Gunshot wound.....	1	1		
Corneal ulcer.....	1	1		
Sore arm, result of vaccination.....	1	1		
Abscess on jaw.....	1	1		
Hemorrhoids operation.....	2	2		
Circumcision.....	2	2		
Amputation right little finger.....	1	1		
Extraction teeth.....	1	1		
Infected gum.....	1	1		
Sprained right foot.....	1	1		
Lacerated hand.....	1	1		
Carbuncle, neck.....	1	1		
Double hernia.....	1	1		
Syphilitic-gastritis.....	1	1		
Osteomyelitis, lower jaw bone.....	1	1		
Compound fracture right leg.....	1	1		
Lipoma of abdomen.....	1	1		
Suicide.....	2		2	
Total.....	66	62	3	

TABLE NO. 4—MORTUARY REPORT FOR TWO YEARS ENDING SEPTEMBER 30, 1920.

Reg. No.	Name.	Age.	Date.	Cause of death.
4806	Edward Faine.....	25	Oct. 6, 1918	Epilepsy grand mal.
5146	August Horstman.....	29	Oct. 19, 1918	Tuberculosis-spine.
5811	Peter Tudor.....	53	Nov. 8, 1918	Pneumonia.
6010	William Smith.....	20	Nov. 8, 1918	Pneumonia.
1246	Edward Fitzgerald.....	29	Nov. 8, 1918	Pneumonia.
5887	John Svec.....	28	Nov. 9, 1918	Pneumonia-influenza.
1470	James Toohey.....	31	Nov. 11, 1918	Pneumonia.
5491	K. Hare.....	26	Nov. 12, 1918	Pneumonia-influenza.
4829	William Gutton.....	26	Nov. 13, 1918	Pneumonia-influenza.
4051	James O'Rourke.....	24	Nov. 14, 1918	Influenza.
5045	W. Hill.....	27	Nov. 14, 1918	Influenza.
5658	John E. Tisdale.....	31	Nov. 16, 1918	Influenza.
5699	Harry Maynard.....	33	Nov. 17, 1918	Influenza.
5990	James Maher.....	38	Nov. 19, 1918	Influenza.
4116	William Jolliver.....	36	Jan. 1, 1919	Result injury—escaping.
5140	John Harmon.....	26	Jan. 21, 1919	Chronic nephritis.
5565	Dennis Sullivan.....	59	Feb. 25, 1919	Suicide.
5415	A. Brown.....	29	Mar. 21, 1919	Tuberculosis, pulmonary.
6217	C. Gennus.....	34	Apr. 6, 1919	Suicide—cell—cc.
5758	O. Green.....	28	Apr. 8, 1919	Myocarditis.
5181	Carl Rahn.....	42	Apr. 30, 1919	Pulmonary tuberculosis.
5563	William Gatlen.....	31	Sept. 23, 1919	Coroner's verdict.
5541	Bittel Simmons.....	38	Oct. 3, 1919	Tuberculosis.
4590	George Cechota.....	28	Oct. 3, 1919	Coroner's verdict.
5469	Samuel Richardson.....	28	Nov. 19, 1919	Cirrhosis of liver.
5206	John Herr.....	61	Jan. 24, 1920	Coroner's verdict.
436	Charles Cryser.....	40	Feb. 3, 1920	Pneumonia.
4228	Glenn Hood.....	32	Feb. 5, 1920	Pneumonia.
6303	Tucker Brown.....	35	Feb. 10, 1920	Pneumonia.
6453	Henry Nichols.....	31	Feb. 11, 1920	Pneumonia.
6081	H. Burns.....	40	Feb. 12, 1920	Pneumonia.
3511	Fred Carpenter.....	41	Feb. 12, 1920	Pneumonia.
6589	F. Logan.....	38	Feb. 13, 1920	Pneumonia.
6148	Charles Smith.....	29	Feb. 14, 1920	Pneumonia.
5470	John Bryant.....	53	Feb. 21, 1920	Pneumonia.
6219	W. D. Brown.....	48	Feb. 22, 1920	Necrosis, mastoid.
4343	Joseph Grundy, died on farm.....	45	Mar. 11, 1920	Coroner's verdict.
6252	B. Whiteside.....	22	Mar. 18, 1920	Pulmonary tuberculosis.
6064	Willie Ross.....	36	May 5, 1920	Pulmonary tuberculosis.
5676	E. Henry.....	26	June 2, 1920	Pulmonary tuberculosis.
3593	W. Jackson.....	28	May 16, 1920	Killed—escaping.
5632	Eugene Harris.....	35	July 12, 1920	Pulmonary tuberculosis.
3606	William Fairbanks.....	33	July 18, 1920	Peritonitis.
6542	Peter Bretalawicz.....	26	Aug. 2, 1920	Pulmonary tuberculosis.
6832	Walter Coleman.....	21	Aug. 18, 1920	Pulmonary tuberculosis.
5292	J. D. Claude.....	20	Sept. 17, 1920	Coroner's verdict.
5754	Herbert Washington.....	42	Sept. 21, 1920	General tuberculosis.
3523	Joseph Scuitto.....	37	Sept. 22, 1920	Entero-colitis.
4588	Charles Burton.....	45	Sept. 24, 1920	Coroner's verdict.
5858	Michel Whitlow.....	45	Aug. 28, 1920	Pulmonary tuberculosis.

TABLE NO. 5—CONVICTS SENT TO ASYLUM AT MENARD.

Reg. No.	Name.	Date sent.
6007	Thomas Maxwell.....	February 13, 1919.
4567	Harry O'Neill.....	February 13, 1919.
5795	Robert Scott.....	February 13, 1919.
338	Herbert Spring.....	February 13, 1919.
5314	Oscar Lindstrom.....	February 13, 1919.
4876	John Baenett.....	May 3, 1919.
1275	Ben Davis.....	May 3, 1919.
6066	William C. Darr.....	May 3, 1919.
4474	Louis Kasper.....	May 3, 1919.
5924	D. Garmel.....	May 3, 1919.
4665	F. Smith.....	May 3, 1919.
2953	Joseph Hanarhan.....	November 29, 1919.
5393	William Bolton.....	November 29, 1919.
5189	Louis Young.....	November 29, 1919.
6130	Rudolph Carr.....	November 29, 1919.
5902	Lennie Carr.....	November 29, 1919.
5770	Frank Dunning.....	November 29, 1919.
6255	B. Karlowics.....	November 29, 1919.
5724	F. Barry.....	March 29, 1920.
8489	Herbert Gorman.....	March 29, 1920.
6460	H. Harris.....	March 29, 1920.
3140	F. Hall.....	May 4, 1920.
6257	John Quigley.....	May 4, 1920.
6560	Buck Wilson.....	May 12, 1920.
6009	John Glencoe.....	May 12, 1920.
3014	Edward Harrigan.....	May 4, 1920.
6708	Earl Bradley.....	May 13, 1920. Sent to Dixon.
5780	George Bobo.....	November 8, 1920.
4474	Louis Kasper.....	November 8, 1920.
6149	John Morgan.....	November 8, 1920.
3723	John Smith.....	November 8, 1920.
5890	Paul Porter.....	November 8, 1920.

CLASS 1—CIRCULATORY SYSTEM—1919-1920.

Cases treated.	Treated.	Discharged.	Deaths.	Remaining.
Neuralgia of face.....	1	1		
Chronic regurgitation.....	1	1		
Myocarditis.....	1	1		
Biliary chirrotic liver.....	1	1		
Heart disease, coroner's verdict.....	1		1	
Total.....	5	4	1	

CLASS 2—DIGESTIVE SYSTEM—1919-1920.

Cirrhosis of liver.....	1		1	
Peritonitis.....	1		1	
Gall stones.....	2	2		
Acute indigestion.....	3	3		
Indigestion.....	23	23		
Constipation.....	54	54		
Gastritis.....	15	13		2
Gastritis, chronic.....	2	2		
Ptomaine poison.....	4	4		
Alcoholic poison.....	1			1
Alcoholic spleen.....	1	1		
Ulcerated stomach.....	1			1
Entro-colitis.....	1		1	
Ilio-colitis.....	1	1		
Hemorrhoids.....	5	5		
Diarrhoea.....	14	14		
Total.....	139	132	3	4

CLASS 3—EYE, EAR, NOSE AND THROAT—1919-1920.

Cases treated.	Treated.	Discharged.	Deaths.	Remaining.
Conjunctivitis.....	4	4	-----	-----
Gingivitis.....	10	10	-----	-----
Tonsilitis.....	32	32	-----	-----
Helosis.....	1	1	-----	-----
Infected eye.....	2	2	-----	-----
Infection above eye.....	1	1	-----	-----
Necrosis of right mastoid.....	1	-----	1	-----
Total.....	51	50	1	-----

CLASS 4—GENERAL DISEASES—1919-1920.

Senility.....	1	-----	-----	1
Tuberculosis left limb.....	1	-----	-----	1
Rheumatism.....	21	21	-----	-----
Swallowed tack.....	2	2	-----	-----
Electric shock.....	1	1	-----	-----
Bi-chloride of mercury—suicide.....	1	-----	1	-----
LaGrippe.....	117	117	-----	-----
Colds.....	68	68	-----	-----
Lumbago.....	14	14	-----	-----
Intermittent fever.....	12	12	-----	-----
Total.....	238	235	1	2

CLASS 5—GENITO-URINARY SYSTEM—1919-1920.

Diabetis.....	1	-----	-----	1
Orchitis.....	1	1	-----	-----
Epididymitis.....	1	1	-----	-----
Total.....	3	2	-----	1

CLASS 6—MENTAL AND NERVOUS DISEASES—1919-1920.

Observation.....	41	41	-----	-----
Mental insufficiency.....	1	1	-----	-----
Epilepsy.....	3	3	-----	-----
Total.....	45	45	-----	-----

CLASS 7—RESPIRATORY SYSTEM—1919-1920.

Pulmonary tuberculosis.....	18	7	8	3
General tuberculosis.....	1	-----	1	-----
Bronchitis.....	1	1	-----	-----
Pleurisy.....	2	2	-----	-----
Chronic asthma.....	2	2	-----	-----
Double pneumonia.....	2	-----	2	-----
Pneumonia.....	10	3	7	-----
Total.....	36	15	18	3

CLASS 8—SKIN AND VENERAL DISEASES—1919-1920.

Erysipelas.....	3	3	-----	-----
Eczema.....	2	2	-----	-----
Boil on hand.....	1	1	-----	-----
Total.....	6	6	-----	-----

CLASS 9—SURGICAL CASES—1919-1920.

Cases treated.	Treated.	Discharged.	Deaths.	Remaining.
Gunshot wound.....	1		1	
Compound fracture right limb.....	1	1		
Amputation 3 toes and part left foot.....	1	1		
Lacerated hand.....	1	1		
Compound left ulnar.....	1	1		
Abscess on hand.....	1	1		
Buttock bruised.....	1	1		
Abscess upper lip.....	1	1		
Bruised face.....	1	1		
Sprained ankle.....	3	3		
Ink poison.....	1	1		
Laceration of face (knife).....	1	1		
Infected leg.....	1	1		
Burned hand.....	1	1		
Lacerated forearm.....	1	1		
Lacerated face.....	2	2		
Lacerated head (knife).....	1	1		
Old bullet wound, face.....	1	1		
Sun burned.....	1	1		
Infected hand.....	1	1		
Burned left forearm.....	1	1		
Tubercular glands.....	2	2		
Lacerated thumb.....	1	1		
Lacerated leg and shoulder.....	1	1		
Circumcision.....	2	2		
Sweat sores.....	1	1		
Sprained back.....	5	5		
Lacerated face and neck (knife).....	1	1		
Abscess over right tibia.....	1	1		
Bruised and lacerated hand.....	1	1		
Shell tooth extracted.....	1	1		
Extraction of bullet from second finger.....	1	1		
Gunshot and broken leg.....	1	1		
Lacerated finger.....	1	1		
Ulcerated gum.....	1	1		
Bruise near left tibia.....	1	1		
Lacerated left forefinger.....	1	1		
Strained and bruised hip.....	1	1		
Strained lumbar.....	1	1		
Fistula.....	1	1		
Bruised and ruptured small testical vessel.....	1	1		
Carbuncle.....	5	5		
Abscess right eyelid.....	1	1		
Knife wound, superficial.....	1	1		
Abscess of patella.....	1	1		
Lacerated and infected thumb.....	1	1		
Coroner's verdict.....	3		3	
Total.....	62	58	4	

REPORT OF HEAD FARMER

C. R. GREEN

Herewith is submitted a report showing results at the State Farm.

Six hundred and fifty acres have been plowed this fall. The foundation for the new brooder house has been laid, and this structure, which will care for 5,000 chickens, will be completed within sixty days. A concrete and steel silo, 16 by 50 feet, has been completed for the dairy department. A substantial start will be made during this coming year on the 12-mile boundary for the farm.

Other plans contemplate the building of a machinery shed, a hog house and a dairy barn.

INDUSTRIAL FARM DEPARTMENT

CROPS PRODUCED DURING THE YEAR 1920

Farm

Alfalfa hay	44	tons
Timothy hay	440	tons
Straw	400	tons
Silage	260	tons
Oats	21,203	bushels
Rye	1,408	bushels
Barley	3,550	bushels
Wheat	1,990	bushels
Corn (ear)	4,903	bushels
Sorghum molasses	300	gallons

Garden

Celery	1,257	bunches
Onions (dry)	3,759	bushels
Onions (green)	1,552	crates
Sauerkraut	1,240	gallons
Sage	17	pounds
Peppers	1,658	bushels
Horse radish	45	pounds
Asparagus	817	pounds
Parsnips	295	pounds
Rhubarb	750	pounds
Cherries	164	quarts
Peas	176	bushels
Kale	338	crates
Lettuce	578	crates
Radishes	343	crates
Mustard greens	100	crates
Spinach	245	crates
Strawberries	248	quarts
Tomato plants	120	quarts
Turnip tops	73	crates
Beans (string)	18,287	pounds
Beets	2,421	crates
Cabbage	36,933	pounds
Cauliflower	5,367	pounds
Chard	34	crates
Garlic	8	pounds
Parsley	24	bunches
Turnips	9	crates
Carrots	2,052	bushels
Apples	12	bushels
Sweet corn	6,718	dozen
Egg plant	2,001	pounds
Okra	14	pounds
Potatoes	1,103	bushels
Tomatoes	5,075	crates
Cantaloupe	10	dozen
Cucumbers	2,176	dozen
Kohlrabi	127	pounds
Peppers (green)	74	dozen
Squash	18,473	pounds
Grapes	70	pounds
Pumpkins	14,440	pounds

AVERAGE NUMBER OF LIVE STOCK ON HAND PER DAY FOR YEAR 1920

Hogs

Sows	50
Boars	16
Pigs (weaned)	50
Shoats	444

Cattle

Cows	53
Heifers	86
Bulls	3
Calves	25
Horses	34
Mules	28
Colts	2

Poultry

Chickens	1,200
Geese	113
Ducks (tame)	58
Ducks (wild)	150
Turkeys	85
Guinea hens	28

ESTIMATED ACREAGE AND PRODUCTION FOR THE YEAR 1921

Wheat (spring)	Acres, 80.....	1,600 bushels
Wheat (fall)	Acres, 70.....	1,400 bushels
Barley	Acres, 120.....	3,600 bushels
Corn	Acres, 350.....	10,500 bushels
Soy beans	Acres, 40.....	30 tons
Oats	Acres, 523.....	23,000 bushels
Soudan grass	Acres, 25.....	20 tons
Alfalfa hay	Acres, 40.....	40 tons
Timothy hay	Acres, 250.....	250 tons
Barley	Acres, 35.....	1,050 bushels
Sorghum	Acres, 30.....	250 gallons
Pasture	Acres, 215.....	.....

GARDEN

Onions (dry)	Acres, 6.....	1,200 bushels
Onions (green)	Acres, 3.....	600 crates
Tomatoes	Acres, 18.....	5,000 crates
Cabbage	Acres, 10.....	60 tons
Bets	Acres, 3.....	600 bushels
Carrots	Acres, 3.....	600 bushels
Sweet corn	Acres, 10.....	35,000 dozen
General garden	Acres, 42.....	.....

REPORT OF CHIEF ENGINEER

JOHN W. MILLER

I herewith respectfully submit the report of the engineering department for the two years ending September 30, 1920.

POWER STATION

Our power plant originally had two boiler rooms, consisting of one for the main plant and a smaller one for the industrial departments. The industrial boiler room has been discontinued, and all the power for the institution is furnished from the main power house. This was done for economical reasons and has proven satisfactory.

The main plant consists of eight tubular boilers. The tubes were taken out, reended, cleaned and replaced on six of these boilers.

The boiler feed, fire and vacuum pumps have been removed to a place especially prepared for them underneath the present store room. This was done to give a greater gravity return for the heating system as well as to remove the pumps from the dirt and dust of the boiler room.

BUILDINGS

A new concrete floor has been laid in the machine shop and a new wooden floor in the plumbing shop. The carpenter and tin shops have been moved from the old location above the machine shop to a remodeled building, which gives more room and better light and air for the workmen.

The new machines purchased for this department made the floor in the old shop unsafe.

A new roof and new concrete floor have been provided in the building known as Chair No. 5, and a new roof has been put on the bath room formerly the old broom shop. These buildings had been damaged by fire.

A modern fire proof building has been erected to replace the old dry kiln which was burned.

A new roof of galvanized iron has been put on the general kitchen. A new paper roof on the clothing room and new paper roofs have been put on two large barns on the old farm just east of the main prison.

The interior of the administration building, consisting of the warden's house, officers' quarters, dining rooms and kitchens, the hospital building and the deputy warden's office have been renovated and redecorated.

WATER MAINS AND FIRE PROTECTION

The water mains are getting very old and in places are very badly corroded. Occasionally a section has to be replaced due to breakage. The fire pump which has been in service for thirty years has been overhauled and put into the best condition possible. At present a connection is being made of an eight inch pipe between the canal water well and the fire pump, which on completion will give an inexhaustible supply of water for fire protection. This water, however, is not fit for domestic use. Five hundred feet of 2½-inch fire hose has been purchased, making the total available 1,400 feet.

The water supply for domestic use is taken from the quarry and with some recent changes in the pumping station about one-third more water has been made available through the reservoir from that source.

This system has been extended to all places in need of water for drinking and cooking purposes and it now serves twenty-four hours instead of twelve as used to be the case.

REPAIRS AND IMPROVEMENTS

The ammonia compressor has been overhauled and put in good condition, the condenser has been rebuilt and now is not only efficient, but safe.

The ice making system has been changed from the old manner of making ice to a modern can system which gives at least one-third ice.

The greenhouses have been completely overhauled and are now almost as good as new.

The west camp buildings at the State Farm have been wired, and at present the high tension line from the new penitentiary is being extended to this camp, and when completed each room of these buildings will have electric light and the grounds will be properly illuminated for protection.

A number of pressure regulating and vacuum valves have been placed in the different buildings, thereby changing the heating system from a boiler pressure to a few pounds direct upon the radiators and coils, reducing the danger of explosions.

The return water from most of the buildings is now being returned to the boilers. Where this is not the case at present, it will be in the near future.

The heating apparatus in the solitary has been changed and renewed.

The Women's Prison is heated from our main power plant during mild weather, but there is a boiler at the Women's Prison that has been put in good condition and will be used when the occasion arises.

The sub-station itself is fairly well equipped, but a great deal of electrical wiring in the various buildings is in poor condition and needs to be replaced.

One new lathe, and a boring machine for automobile and pump repair work has been purchased for the machine shop. A new combination power saw and a planer have been installed in the carpenter shop. Gas collectors and an analyzer have been put in operation in connection with the boilers.

RECOMMENDATIONS

I have no recommendations regarding any extensive changes to be made in any of the existing buildings on account of the fact that the buildings will be abandoned as soon as the new penitentiary is completed, but I do recommend that sufficient funds be appropriated to meet the continuous repairs that are needed on the old buildings and keep them in condition for use during the time needed for the completion of the new prison.

I recommend that a new lathe be purchased for the machine shop to replace worn-out equipment. A drill press is needed in the carpenter shop. A 50 horsepower and a 35 horsepower motor are needed for emergencies to assure constant operation of our various departments.

I suggest that four boilers be retubed for the power plant, and that a water softener be purchased for the boiler feed, which will aid in the prevention of scales forming on the boiler tubes.

I recommend the purchase of two chemical engines and several small extinguishers for fire protection at the State Farm west camp buildings. As these buildings are all heated by stoves the need for protection is quite obvious.

I also suggest that each farm building be provided with fire extinguishers, and also that the dairy section be provided with a chemical engine as well as hand extinguishers.

SOUTHERN ILLINOIS PENITENTIARY

JAMES A. WHITE, *Warden*

In submitting the biennial report for the period ending June 30, 1920, I wish primarily to call attention to the attitude and general disposition of the prisoners towards the authorities, towards society and towards their own prospects for again taking their places in the world when released. The general good discipline which is now being maintained is not merely a condition of forced submission, but rather a result of a higher view and a brighter outlook of each individual within the prison.

This condition has been brought about largely through an individual study of each man, suiting his work as nearly as possible to his capabilities and taking into consideration his experience prior to admission. Under the supervision and at the direction of Mr. John L. Whitman, superintendent of prisons, the organization of the prison staff for the purpose of installing the Progressive Merit System has made provisions for carrying on this study more systematically and following it up more closely.

The increased cost of living together with the increased wages in all branches of industry has necessitated a considerable increase in salaries in order to attract and keep officers with desirable qualifications. Without officers of the very highest type available, it is impossible to show satisfactory results where the future welfare of wards of the State is at stake.

The purchase of 800 acres additional farm land has given employment to a larger number of prisoners on the farm, much to the benefit of the men and to the advantage of the institution.

Although greatly handicapped on account of the high water and excessive spring rains, a fair crop was planted, but much of the low land could not be cultivated this year. With some drainage and levee work all of this land will be reclaimed and as its productiveness is very high, the benefits derived from this source should increase rapidly.

IMPROVEMENTS

Two new boilers are being installed, a new stack has been built, and other buildings and machinery are being constructed and installed in connection with a new limestone crusher and dust mill. This equipment should double our output of agricultural limestone dust for which the demand is ever increasing.

During this period we have built a calf shed for housing the small calves. This affords proper facilities for caring for our future dairy herd. We are rapidly bringing the dairy up to a high standard. A garage built of sandstone has also been constructed. This is a modern structure providing fully for the housing and repairing of cars. An incubator and brooder house equipped with Candee incubator of six hundred egg capacity and brooders of 1,000 chick capacity, has been built at the poultry yard. This equipment should provide us with all holiday chickens as well as furnishing the institution with eggs a greater part of the time.

These buildings have been erected without special appropriation, all of the labor and much of the material being furnished by the prison.

We are asking for additional appropriation for repairs in order that the needs of the institution in this respect may be fully met. Something over \$3,000 of our repair fund was spent this year in an attempt to find a water supply, and material has been contracted for for rewiring the warden house. This will also come out of the repair appropriation. Consequently, some repairs have had to be postponed until more funds are available.

INDUSTRIES

An idea of the activity of the industries can be obtained from a comparison of the sales for the three years ending June 30, 1917, with the three years ending June 30, 1920. The sales for the period ending June 30, 1917, were \$481,486.79. Those for the period ending June 30, 1920, were \$616,967.79, showing an increase of \$135,481.

The output of agricultural limestone dust has increased steadily, and as we have now begun quarrying from a pit in the yard, it is expected that we can soon be running the inside plant to capacity. With the completion of the new plant outside the yard, the production will be doubled at least.

Three years ago the brick plant was found in a most dilapidated condition, but the work of reconstruction will soon be completed, and we expect to manufacture at least two million common building brick this year.

Although somewhat handicapped at the beginning of the period on account of a fire, which has been previously reported, the clothing industry is now running to capacity, and is the most profitable of our industries.

The knitting factory was producing about sixty-five dozen pairs hosiery per day up to 1918. At the present time we are knitting an average of 165 dozen pairs without additional machinery or other equipment.

RECOMMENDATIONS

I very strongly recommend the installation of two new boilers to replace the old boilers now in operation, which are twenty and thirty

years old respectively; a great saving both in fuel and upkeep could thus be made, as the old hand fired boilers are in such condition as to require a continual expenditure for repairs, and it is impossible to get the best results from the fuel consumed.

Housing conditions for officers are inadequate and to meet this condition I recommend a new cottage for assistant warden's residence, and the conversion of the present twelve room structure now being used for that purpose into officers' quarters.

Another cottage should be built for a physician's residence, there being no provisions at present for a resident physician.

These cottages can be built of sandstone cut from our sandstone quarry, which would put the cost of construction at a very low figure. Request for appropriations covering these improvements will be included in the budget as submitted for your consideration.

A filtration plant has also been asked for. This is very urgent and action should be taken as quickly as possible. This is treated more fully in the prison physician's report which also includes the general health and sanitary conditions. I also append a report of the dentist as well as that of the chaplain.

RELIGIOUS SERVICES

Owing to the meager data and records in my office, I cannot give all details, but services have been held in the chapel each Lord's day at 9:30 a. m., with good attendance and interest.

The music is a very pleasant feature in the service. It is rendered by a band of twenty pieces, all prisoners, with Professor Munal as director, and a choir of fourteen voices, all prisoners, with Mrs. Huffstettler at the piano. The prisoners, officers, and the large number of visitors who attend these services enjoy the musical program.

The prison school with more than one hundred pupils is conducted four days per week, one hour per day for recitation, including the first, second and third grades. There is also some additional instruction in vocational training, about thirty having taken this course. We anticipate, however, teaching five days per week, one and one-half hours each day for recitation during the coming school year, and will include the first eight grades.

LIBRARY

The books in the library number about five thousand, but some of the volumes are missing, and many others so badly worn they have practically passed into disuse. You can estimate the value of the library when I tell you the prisoners read about three hundred books per week, more than fifteen thousand per year. I would recommend the purchase of one thousand new books. Please understand that the above figures do not include the Bibles, books sent to prisoners by friends and relatives, and other Christian literature, which is provided, for we have

endeavored to supply every prisoner with a Bible and other books not contained in the library.

Wholesome entertainment is also provided for the prisoners. During the summer season a baseball game is played each Saturday afternoon to the amusement of all, and during the winter months, moving pictures are enjoyed two afternoons per month, and we anticipate giving them every Saturday afternoon during the coming winter. Some home talent plays have also been given.

The chaplain of this institution also conducts services at the Chester State Hospital each Sabbath at eleven o'clock.

REPORT OF PRISON PHYSICIAN

GEORGE HOFFMAN

I submit the report of the prison hospital and medical department for the biennium ending June 30, 1920. The general health of the prisoners during this period has been satisfactory, except in 1919, when we were visited by an epidemic of influenza, at which time there were about 640 cases in the institution. The accompanying tabulated report shows in detail the number and nature of diseases treated.

SANITATION

The sanitation is as good as possible with the present sewerage and plumbing. The ventilation of both cell houses has been well maintained, and careful attention given to the housing of the inmates. The solitary building and cell houses are frequently fumigated with disinfectant, and semi-annually a solution of sulphur and formaldehyde is placed in air ducts and distributed to each individual cell, thereby, perfecting a thorough disinfection. I strongly advocate removing the wooden flooring from all galleries leading to the cells and replacing it with concrete, as an additional precaution against vermin, especially bed bugs. The clothing and bedding issued to prisoners have been of good quality and ample at all seasons.

We have inaugurated a regular monthly inspection of the entire institution. Every detriment to health, except dry toilets throughout the prison yard has been ordered removed. Flush toilets installed in the yard would greatly add to our sanitary efforts.

The bakery, storerooms, kitchens and dining halls are all conducted by men who are free from tuberculosis and venereal diseases. We supply our barber shops constantly with a solution to sterilize razors and to use in all shaving mugs, which eliminates infection prevailing heretofore.

DIETETIC

The food furnished has been of good quality and sufficient in amount, properly prepared, and of such variety as to maintain good

health. Hospital patients have received such foods and diets as the nature of their individual cases required.

WATER

The institution is supplied with water for drinking and cooking purposes from the quarry springs, which is piped to a well in the prison yard. Several analyses in the past two years have positively proven this water polluted. Mississippi River water used for boilers, bathing and flushing purposes is exceedingly muddy and is unfit for use. Therefore, I earnestly recommend the installation of a complete filtering system for all water used in the prison. I would suggest this as the most urgent of prison needs, and inasmuch as past analyses have resulted so unfavorably, epidemics may be expected, and will occur if not remedied.

HOSPITAL

About 1 per cent of the inmates are afflicted with pulmonary tuberculosis, some active and some quiescent. All active cases are isolated in the tubercular ward at the hospital. Malaria is the direct cause of considerable disability among the inmates. In cases of surgery, Dr. McKelvey, State surgeon, has accomplished great success, at a saving to the institution, as the instruments now furnished by him would otherwise have to be purchased at much expense.

The number of deaths during the period of two years as shown by mortuary statement herewith submitted, was fifty-three. Of these, one was accidental, and one resulted from gunshot. Deaths from natural causes were somewhat in excess of the usual average for the institution occasioned by the influenza epidemic of 1919, from which disease alone thirty-one deaths resulted; otherwise, the death rate was normal.

DISEASES TREATED AND OPERATIONS PERFORMED

Malingering	22	Flu-pneumonia	41
Lagrippe	25	Epilepsy	6
Erysipelas	16	Tuberculosis	8
Chills and fever.....	225	Dropsy	6
Indigestion	235	Conjunctivitis	6
Fistula	11	Paralysis	2
Chronic nephritis	2	Pneumonia	9
Abscesses	110	Simple anaemia	2
Tonsillitis	75	Obstructed bowels	1
Rheumatism	55	Syphilis	485
Neuralgia	28	Mixed infection	5
Pleurisy	6	Miscellaneous	64
Typhoid	10	Observation	116
Asthma	20	Major operations	30
Hernia	6	Minor operations	654
Influenza	600		

MORTUARY

Dropsy	2	Shot	1
Heart disease	2	Pulmonary tuberculosis	3
Typhoid	4	Obstructed bowels	1
Chronic nephritis	2	Hemorrhage	1
Gangrene from gunshot wound....	1	Bronchial pneumonia	1
Simple anaemia	2	Pneumonia	1
Flu-pneumonia	31	Accidental	1

Daily average population.....	1,089
Daily average hospital attendance.....	13
Daily average sick call.....	85
Daily average sick in cells.....	4

INMATES TRANSFERRED TO THE CHESTER STATE HOSPITAL FOR INSANE

401	Jess Lucas (twice committed), infectious exhaustion.	4230	Earl W. Morris, mental defective.
1842	Ernest Early, dementia praecox.	4356	Lonzell Hudson, depressing insanity.
4251	Gottlieb Bury, dementia praecox.	4334	Harrison White, mental depressed.
3319	George Roche, defective mental development.	2065	John Bainbridge, mental depressed.
1834	James Nibbs, dementia praecox.	4826	William Weatherly, epileptic insanity.
2854	Green Broker, dementia praecox.	4822	William Elliott, mental depressed.
3979	Harry Robinson, depressive insanity.	2750	Harry Gaddis, dementia praecox.
4618	Daw Monday, epileptic insanity.	271	Thomas Davis, dementia praecox.
3713	Sam Mayfield, epileptic insanity.	4274	Charlie West, infer psychosis.
4096	Ezekiah Jones, feeble-minded.	4589	John Jones, infer psychosis.

REPORT OF PRISON DENTIST

B. E. GILSTER

I have the honor of submitting herewith the biennial report for period ending June 30, 1920, for the dental department of this institution, and append a tabulated report showing in detail the number and variety of treatments.

The dental department of this institution became operative in the summer of 1918, with the arrival of modern equipment. Inmates of the institution are receiving every kind of dental treatment necessary, and that they have received untold benefits from this department is attested by the great number who have applied for and received treatment since the dental department became operative. About 90 per cent of the inmates neglect the care of their teeth, and the value of oral hygiene relative to the general physical condition is pointed out to them by the dentist. Much work has been done for the inmates of the Chester State Hospital. The patients are brought to this institution for treatment. This work is included in tabulated report.

I take the opportunity of recommending for the dental department a small X-ray machine for use in pyorrheal conditions, alveolar abscesses and impactions. No dental equipment is complete without the use of the X-ray. I would also recommend the purchasing of a large motor for our laboratory use.

TREATMENTS

Extractions	1,465	Partial plates	47
Amalgam fillings	383	Lanced abscesses	28
Gold fillings	15	Pyorrhea treatments	165
Porcelain fillings	204	Old bridges removed, repaired and reset	24
Cement fillings	98	Recemented crowns	11
Root canal fillings	115	Plates repaired	18
Crowns	118		
Bridges	49		
Prophylaxis	195		
Full plates	32		
			2,967

THE DEPARTMENT OF PUBLIC WELFARE—INSTITUTION INDUSTRIES.

From July 1, 1919, to June 30, 1920.

Institutions.	Working capital revolving fund in State Treasury.						
	Receipts.	Bills passed to date.	Cash balance.	Unpaid bills holding.	Un-expended balance.	Contracts and orders out-standing.	Free available balance.
Joliet.....	\$330,240	\$214,187	\$116,053	\$4,324	\$111,729	-----	\$111,729
Menard.....	242,773	209,943	32,830	-----	32,830	-----	32,830
Pontiac.....	117,976	30,742	87,234	9,044	78,190	-----	78,190
Industrial Blind.....	50,303	-----	50,303	-----	50,303	-----	50,303
Feebleminded.....	4,722	2,876	1,846	1,056	790	\$398	392
Eye and Ear.....	18,310	13,696	4,614	-----	4,614	-----	4,614
Total.....	\$764,324	\$471,444	\$292,880	\$14,424	\$278,456	\$398	\$278,058

THE DEPARTMENT OF PUBLIC WELFARE—INSTITUTION INDUSTRIES.

From July 1, 1919, to October 31, 1920.

Institutions.	Working capital revolving fund in State Treasury—November 1, 1920.						
	Receipts.	Bills passed to date.	Cash balance.	Unpaid bills holding.	Un-expended balance.	Contracts and orders out-standing.	Free available balance.
Joliet.....	\$450,859	\$353,963	\$96,896	\$ 4,385	\$92,511	\$72,330	\$20,181
Menard.....	352,157	287,872	64,285	11,507	52,778	24,071	28,707
Pontiac.....	177,217	80,419	96,798	114	96,684	23,597	73,087
Industrial Blind.....	65,179	-----	65,179	-----	65,179	-----	65,179
Lincoln Feebleminded.....	6,269	4,396	1,873	245	1,628	205	1,423
Eye and Ear.....	25,692	19,176	6,516	1,100	5,416	182	5,234
Total.....	\$1,077,373	\$745,826	\$331,547	\$17,351	\$314,196	\$120,385	\$193,811
Appropriation basis.....	1,000,000	745,826	254,174	17,351	236,823	120,385	116,438
Receipts in excess of ap- propriations.....	\$77,373	-----	\$77,373	-----	\$77,373	-----	\$77,373

**WORKING CAPITAL FUND—PROFIT AND LOSS AND INCOME ACCOUNT FOR THE TWELVE MONTHS ENDED JUNE 30, 1920—
INDUSTRIAL ACTIVITIES.**

	Total.	Illinois State Penitentiary.	Southern Illinois Penitentiary.	Illinois State Reformatory.	Industrial Home for the Blind.	Lincoln State School and Colony— (Five months only.)	Illinois Charitable Eye and Ear Infirmary.
Sales.....	\$917,406 91	\$308,982 51	\$289,122 02	\$152,121 63	\$57,387 92	\$1,079 65	\$18,732 17
Less returns and allowances.....	2,894 53	2,317 49	99 21	218 00	204 24	55 50	
Net sales.....	\$914,511 38	\$306,665 02	\$289,022 81	\$151,903 54	\$57,183 68	\$1,024 15	\$18,732 17
Cost of sales.....	510,717 39	215,208 76	159,673 19	65,913 23	57,397 43	984 02	11,949 67
Gross profit.....	\$403,794 09	\$181,456 26	\$129,349 62	\$85,990 32	\$233 75	\$340 14	\$6,891 50
	\$ 1,410 51	\$ 1,410 51					
	18,834 09	7,430 28		\$ 3,210 37	\$ 75 71		\$ 71 93
	1,321 43	1,300 43		21 00			
	1,798 39	1,798 39					
	320 78	320 78					
	2,668 63	2,668 63					
	25,385 50	9,888 71	10,313 40	4,910 40	272 99		
	15,737 38	10,473 70	4,199 94	1,063 74			
	60,261 55	14,688 99	17,613 53	22,407 97	3,571 00	\$403 87	1,996 14
	83 86	83 86					
	3,312 38	1,253 97	1,392 40	575 70			90 31
	557 38	557 38					
	8,403 98	5,737 38	1,939 85	728 75			
	84,593 21	39,602 11	8,509 06	16,482 04			
	4,124 90		4,124 90				
	14,237 68	7,178 76	4,018 92	2,030 00			
	1,562 50			1,562 50			
	2,287 35				2,287 35		
	677 99				677 99		
Total operating expenses.....	\$227,549 49	\$104,353 88	\$80,157 85	\$53,990 47	\$6,385 04	\$403 87	\$1,753 36
Loss or gain on operations.....	\$176,244 80	\$77,102 38	\$69,191 77	\$31,999 85	\$7,118 79	\$3 73	\$5,133 12
Add labor earned.....	61,460 15	31,179 23	15,416 56	14,683 08		181 26	
	\$237,704 75	\$108,281 61	\$84,608 33	\$46,682 93	\$7,118 79	\$117 55	\$5,133 12

Less—									
Free sales of stone, shipped on requisitions of Division of Highways.....	6,767 00	3,033 25	3,728 75						
Free sales of optical goods (glasses, lenses, and repairs to same, charity).....	924 87								924 87
Add—									
Total loss or gain on operations.....	\$230,012 88	\$105,243 30	\$80,879 58	\$46,682 98	\$37,118 79	\$117 65		\$4,206 25	
Discount earned.....	3,406 28	1,186 62	1,978 49	487 27	472 81			228 09	
Miscellaneous refunds.....	20 25			20 25					
Total income for period.....	\$233,441 39	\$106,429 98	\$82,858 07	\$47,190 45	\$37,591 60	\$117 65		\$4,436 94	

* Deficit

PRODUCTION REPORT

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ILLINOIS WOMAN'S PRISON

GRACE FULLER, *Superintendent*

I have the honor to submit a brief report for the period of the Woman's Prison's independent existence.

Following the intimation contained in Mr. Thorne's first report the Woman's Prison was made a separate division of the Department of Public Welfare on July 1, 1919. This wise change made modifications of organization necessary; the employment of a chief clerk and storekeeper, the exchange of a male guard for a matron; the alteration of floor space providing for storage of provisions and supplies, etc.

Due to high war costs the building and equipment had suffered for several years from deferred maintenance and were greatly in need of restoration especially in the case of walls, plumbing and steamfitting.

In shifting the responsibility of headship it was planned to have the Woman's Prison furnish the material and the Illinois State Penitentiary the labor for these permanent and temporary repairs; owing to shortage of guards and other causes the penitentiary has been unable to furnish the labor, except for emergency cases, and as the appropriation for repairs was far short of the requirement for this reconstruction, the building is in a condition far below the high standard maintained in other institutions familiar to the writer of this report.

RECOMMENDATIONS

The water furnished by the Illinois State Penitentiary from a local well is unfit for table use and necessitates much handling of water from another well, used in the preparation of food and for drinking purposes; a new well with electric power for distribution should be drilled for this supply and for laundry and household use. As the water in our vicinity carries a heavy lime deposit a mechanical or chemical softener should be included in this improvement.

The rapidly approaching time for the removal of the Illinois State Penitentiary to its new quarters makes it imperative for the Woman's Prison to install a new steam boiler to be used in connection with the one now in partial use, and a new boiler house built to contain both.

Our average population has been 45, 42 per cent of whom are colored. We average 11 per cent Roman Catholic and the others are distributed among the denominations. The Protestant chaplain baptized one and the Reverend T. DeWitt Tanner baptized seven; these seven with one formerly baptized were confirmed by Bishop Griswold at Christ-

mas time. Eight women are on parole in this State and two in other states.

Since March 1 our inmates have had the benefit of the Progressive Merit System. Five women have already been paroled, having gained from ten to forty-five days for good behavior.

INDUSTRIAL OPERATIONS

We have made in our sewing room 43 United States flags for other institutions in the State, seven have been sold to Michigan institutions and one went to Japan with the Bishop of Tokio, a gift from his hostess while in this country, Mrs. Robert B. Gregory. We canned this year 3,200 quarts of vegetables and fruit. About one-half of the vegetables were grown in our garden, the work being done by inmates under the direction of one of our matrons. The laundry has turned out 237,258 pieces for ourselves and the Illinois State Penitentiary. We plan to have every woman made competent in each branch of work carried on in the institution, sewing, cooking, serving, washing, ironing and house work. The great variation in age—from eighteen to seventy-six years—makes it hard to accomplish this, but we rotate the work as far as possible.

In common with all the world our community has felt the spirit of this restless age. On June 28, of this year, three women went away from the institution—the first escapes in the sixty years' history of the Woman's Prison. Through the prompt, intelligent and sympathetic work of one of Doctor Adler's social workers two of these girls were induced to come back within forty-eight hours. The third of the party, of whom we had no social history, is still unapprehended. I could not overestimate the value to us of the work of the Division of Criminologist.

The business and discipline of the household are conducted through our house meetings which are held for a period of forty-five minutes every day, the superintendent, chief clerk, storekeeper and matrons being present. All matters relating to the welfare of the institution and the inmates are acted upon at these meetings. The superintendent acts as chairman and the mental health officer sits in in an advisory capacity. Any inmate may come before the meeting upon application to the superintendent or to the matron in whose charge she is working.

HEALTH

We have had sixteen mild cases of influenza and three cases of prolonged fever. While the fever cases were unfortunate and alarming they were the means of our obtaining some long needed and valuable automatic refrigerators.

We try to have the women in the fresh air as much as possible. During our recreation period, from three to four o'clock, and, in the summer evenings from five to seven o'clock, we greatly enjoy athletic diversions; and on holidays, games, contests and baseball. We have two

lively teams in good uniforms and it appears to be a very wholesome exercise for our women.

The old forms of discipline have been practically abandoned; infractions of the household regulations—which are in general swearing, abusive and vulgar language—are treated by restriction of diet and by taking away the recreation privileges.

ILLINOIS STATE REFORMATORY

JAMES F. SCOULLER, *General Superintendent*

The greatest step forward that has been taken in the institution during the past biennium has been the establishment of the Merit System. So much has been published concerning the Merit System in various magazines and bulletins, that but a brief outline will be given here.

Under this system prisoners are divided into five grades: "A," "B," "C," "D" and "E." Upon commitment to the institution a prisoner is automatically assigned to grade "C" and is eligible for promotion to the higher grades each three months, provided he meets the requirements in behavior and workmanship. Demotion to the lower grades comes as a result of poor conduct, or poor endeavor. Each prisoner is graded by the shop or school instructor, and in addition, the staff, comprised of the principal officials of the institution, passes upon these markings, and expresses final judgment. Before the staff takes action in the case of a prisoner it has before it the reports of the physician, psychiatrist and psychologist, as well as a report of the officials having the prisoner under direct control. Practically, the Merit System means that the prisoner may work out his own salvation with the assistance of the staff. His period of stay at the institution is determined, in a great measure, by the conduct he observes.

The work of the Merit System is cooperative with that of the Division of Pardons and Paroles, which sets the prisoner's time and determines his parole, in the fact that even though he may have served the minimum sentence he is not eligible to be heard by the Division of Pardons and Paroles until he has been in grade "A" for at least three months. The findings of the staff in each individual case are before the Division of Pardons and Paroles when it considers the case for final determination. The staff does its work regardless of the penalty fixed for the crime committed. It studies the individual. The Division of Pardons and Paroles considers the staff's findings, the crime committed, and the previous criminal history of the prisoner. Once this division has fixed his sentence he may earn his good time according to the grade to which he is promoted; or he may lose time by being demoted to a lower grade.

The system has not been in operation long enough to assert conclusively what results will be obtained. It became operative March 1,

1920, and the first prisoners received since that date under the Merit System have not yet appeared before the Division of Pardons and Paroles. There is no question, however, but that the system is an exceptionally good one, and will work out to the benefit of all concerned. This much can be said—the conduct of the prisoners in the institution has been better since the Merit System was put into operation.

During the two-year period a psychiatrist and a psychologist have been assigned to the institution, with a view to determining the mental ages and characteristics of prisoners committed here. Their work has been helpful, and should prove increasingly valuable as the years go by.

HEALTH

The health of the inmates during the two-year period has been very good indeed. We have been fortunate in having a very competent surgeon who has performed a large number of major operations, with wonderful success, relieving the sufferings of many who would otherwise not have been able to afford an operation.

Wassermann tests are now taken of each inmate as he enters, and in this way cases of diseases not otherwise recognizable have been discovered and cured.

Due to the care and precaution used, the influenza epidemic of 1918 resulted in but five deaths out of over 300 cases. There was a slight epidemic of scarlet fever in the institution during the spring of 1920, but no serious cases and no deaths resulted.

Under provision made in the last budget we have a dentist at the institution every day, and as a result the teeth of all inmates are being kept in splendid condition.

With the employment of a dietitian, under the provisions of the budget, it has been possible to inaugurate a system of feeding inmates whereby each meal is served steaming hot. The army cafeteria style is used and it has been found that it takes but a few minutes longer to serve meals steaming hot than it did to serve them practically cold, as in the past. Needless to say, this has added a great deal to the comfort of inmates and they have shown their appreciation of it. The employment of a dietitian has also made possible the cooking of food in a scientific manner, and the keeping of accurate waste accounts. The ration has been accurately balanced and care taken that each inmate should have the right amount of food, not only to sustain life, but to keep him in a healthy condition and to promote growth. As a result over nine-tenths of the inmates of the institution show an increase in weight from the time of their arrival until their release. This has been done, not by increasing the expenditure for food, but by so regulating waste that the amount of food consumed is less than it has been previously. Comparison with other penal institutions in the State shows that the cost of maintenance per inmate has been less here than at any other institution.

INDUSTRIES

At the present time the industries of the institution are in splendid condition, but the past two-year period presented many difficulties.

In April, 1919, the manual training building, which contained the finishing and storage departments of the chair shop, the blacksmith shop, machine shop, tin shop, and manual training shop was completely destroyed by fire. It was several months before the chair shop could be put into operation again, with a consequent loss of income to the State, and loss of employment for inmates. Temporary quarters were found for all the shops and the work proceeded, although handicapped by lack of room. Fortunately the legislature was in session and an appropriation for two single-story buildings, to take the place of the burned building, was made. One of these buildings is practically completed at this writing, and the other is well under way. When finished, the shops will have modern quarters and will be prepared to do a greater amount of work. High prices of materials and delays in transportation handicapped our industrial departments greatly. Despite all these handicaps the industries have been able to show a reasonable profit. During the next biennial period great progress should be shown in all lines of industry.

With the employment of a dietitian it was possible to undertake canning and dehydrating, with the result that during the past year over 45,000 cans of various vegetables were put up. Dehydrating of products has also proven very successful, and it is believed that there is a great future for this sort of work among institutions in this State. Plans for the next biennium include the dehydrating of a large number of vegetables and canning a sufficient amount of corn, beans and tomatoes to supply all the penal institutions in the State. Not only will this provide a profitable industry for this institution, and result in giving pleasant employment to many of the inmates, but it should prove a great economy to the other institutions of the State.

The revolving fund, under which purchases could be made and profits accrue, has proven very successful indeed. Under it, it is possible to undertake the operation of industries in a satisfactory manner without continual appeals for money, or the necessity of continual appropriations. It permits the expansion of industries in the institution. With a somewhat larger fund during the next biennium this institution should be able to undertake a number of industries that are now in their infancy. The canning and dehydrating plant should be expanded to a point where it can furnish practically all State institutions with canned and dehydrated products. The print shop could be enlarged and equipped to the point where it could take care of practically all the State's printing needs. The manufacture of license plates for automobiles could be readily handled under this fund.

PHYSICAL CONDITION OF THE INSTITUTION

The physical condition of the institution has improved greatly in the past two years, but there is still a great deal of work to be done.

The painters have been continually busy throughout the two years, and the buildings present a much neater appearance.

Practically all of the pipe in the tunnels has been covered, and the tunnels cleaned out. This should result in a saving of coal, which will more than pay for the work in the next few years.

A new hot water system has been put in and a new cold storage system is now being installed. Porches have been added to some of the buildings, and several new walks laid. An outside garage has been built and new buildings erected on the farm, including a splendid ice house. Some farm land has been added by the removal of a large number of stumps and trees, and this, with the fences which have been put up, has improved the farm greatly. If the present plans for the next biennium are carried out the institution should be in better shape than it has been for many years.

RECOMMENDATIONS

I would recommend that legislation be enacted that will permit the payment of a reasonable amount to inmates employed in profitable industries in the institution. Not only would this benefit the family of the prisoner on the outside, but would in many cases permit of the saving of small amounts, which would permit the prisoner to go out into the world, when he is released, with a credit which would tide him over until he was well established.

I would recommend that legislation be enacted providing that where a prisoner receives the maximum sentence under the law he could be transferred to one of the State penitentiaries. The imposing of the maximum sentence on prisoners precludes the idea of reformation and release upon reformation. The intention of those responsible for the creation of the Reformatory Act was that this should not be an institution for the confinement of long-time prisoners, but for young, first offenders, in particular, and all cases where a short sentence might lead to reformation. I would recommend that legislation be enacted providing that no second offender, 21 years of age or over, should be sent to the reformatory.

It is recommended that a separate reformatory for prisoners from Cook County be established, and that this institution receive only those from other parts of the State. At the present time one-half of the prisoners here are from Cook County. Due to local conditions they are of a different type from the remainder of the prisoners here, and contact with them is not usually helpful to the prisoners from down-state. At the present time the House of Correction has very few inmates, and with practically no addition to the plant would make a reformatory for prisoners from Cook County. A great deal of money would be saved the

State in transportation if this were done, and at the same time parents should be pleased, as they would save a great deal of money in visiting prisoners. I firmly believe that if this institution needed to take care of but half the prisoners now confined here much better results would be obtained, and the expense of conducting the institution greatly reduced.

I would recommend that an appropriation be secured for the purchase of additional land. The present acreage does not provide sufficient employment for the inmates of the institution. The State can run a farm much more economically than any farmer, due to the cheapness of the labor, and a greater profit should therefore be obtained from the land, while at the same time more prisoners could be given healthy work out of doors. This same recommendation has been made by practically every superintendent of the institution since its establishment. There is no question but that it should be carried out and that the purchase of land would be of benefit to the institution and to the State, and at the same time prove financially a success.

I believe that steps should be taken looking forward to securing an adequate water supply for the institution separate from the present local supply. At the present time the State is spending \$10,000 per year for water, alone. This amounts to interest on about \$175,000, and there is no question but what it is poor financial policy to expend this amount if a good water supply could be owned and operated. Two methods are, I believe, feasible: One to bring a pipe line from the river to the institution, handling the water here at the power house with the present force, with possibly a slight addition. The other is the bringing of water from deep wells to the reservoirs now at the reformatory. It is known that 11 or 12 miles from the institution there are artesian wells which provide a constant flow. It is believed that by gravity water could be brought from these wells, or similar wells, to the three reservoirs now existing on the grounds, and a sufficient supply assured to meet the needs of the reformatory. It would be necessary to have the engineering department study the matter and make recommendation, but I believe in view of the expense of supplying water to the State, under the present system, immediate action should be taken.

During the biennium, salaries have been increased to a point within hailing distance of the high cost of living. The result has been a better class of employees and better service to the State and to the institution. It is to be hoped that these salaries will not be reduced for a long time to come.

THE ILLINOIS CHARITABLE EYE AND EAR INFIRMARY

H. J. SMITH, M. D., *Managing Officer*

It has long been recognized that epochs in political history, marked by great wars, with movements of vast armies, or migration of racial units to new environment are fraught with medical events of signal character. The return of our armies from the battlefields of Europe brought in its wake two epidemics of respiratory infections with a multitude of serious complications. The records of cases examined at the infirmary during the last biennium reflect the impress of these epidemics. It may be mentioned in passing, as a matter of historical record, that the infirmary was quarantined during both epidemics, and a wing of the hospital was segregated for the care of pneumonia patients when the medical wards of the city hospitals were unable to care for the great number of needy and critical cases. Following these epidemics three types of disease made their appearance in the field of ophthalmology and otology in more than ordinary frequency. Acute glaucoma was of frequent occurrence and during the months of February, March, and April, 1919, more operations were performed for the relief of this condition than for cataract during the same period—a state of affairs never met with before during the recollection of the older members of the staff. Glaucoma is an obscure disease and its relation to the influenza epidemic excited much comment. Optic neuritis and optic atrophy were also met with in unusual numbers and especially in young people, who appeared to be in good health otherwise, but with a history of one or more attacks of influenza or influenzal pneumonia. Pneumococcal conjunctivitis and corneal ulcers from this source were met with very frequently.

In the ear department great numbers of acute middle ear infections were treated, and many were complicated by acute mastoiditis. Many cases of accessory sinus diseases were recorded; in fact, following the second epidemic, more cases of nasal accessory sinus trouble were seen in three months than had been seen during the two years preceding.

LABORATORY

In addition to routine laboratory work, a Wassermann department has been inaugurated. Previously, specimens for serological examination were sent to the Central Laboratory maintained for State hospitals. While the results were reliable, there was too much delay in receiving the reports. The technician employed in the laboratory of pathology has fitted herself to do this work and it is now possible to have Wasser-

mann reports inside of twenty-four hours. This plan has greatly facilitated treatment in many cases to the benefit of the patient and the satisfaction of the attending physician. The number of Wassermann tests performed has frequently been as high as one hundred per week, and the character of the work as to reliability, has been very good.

PREVENTION CLINICS

Under the direction of the head of the Department of Ophthalmology of the University, the Department of Public Welfare with the aid of the Department of Health and the American Red Cross has organized a clinic for the investigation of eye diseases in the southern portion of Illinois. This investigation had for its object the estimation of the prevalence of trachoma. Several counties were visited and the cooperation of local authorities and members of the medical profession was readily obtained. Records of trachoma cases treated at the infirmary for the past five years from these counties were used as a basis for investigation and led usually, to the discovery of many new cases. The reception of this experiment was very enthusiastic and the results are of sufficient interest to warrant an appropriation to permit of this work being carried further. Certainly the prevention of disease, as devastating as trachoma is of great economic importance, and fortunately, prevention is more feasible than cure. The extent of this disease, which produces much blindness, should be accurately determined both geographically and numerically, and this work can be carried out to good advantage in connection with the infirmary.

CHANGES IN THE MEDICAL STAFF

In the last report the need for University affiliation was referred to. I am glad to state that this has been brought about, though the actual reorganization did not take place until the close of the period covered by this report. The head of the Department of Ophthalmology of the Medical Department of the University of Illinois has been placed in charge of the corresponding department of the infirmary, and the same change is provided for in the Department of Otology. The plan provides for an adequate corps of full time assistants in both departments. There is a provision for a chief laboratory technician and an assistant technician for the eye and ear department respectively. When the provisions of this plan have been fully carried out, the institution will be in a position to do teaching, both under graduate and post-graduate, of a high order; something greatly needed in this country, and more especially now that the great teaching centers of central Europe are disorganized. This change in the infirmary staff organization is of more than passing interest. It constitutes not only an epochal event in the history of one of our oldest scientific institutions, but may prove a landmark in the teaching of otology and ophthalmology.

OPTICAL DEPARTMENT

Since February, 1919, a department has been maintained, providing all glasses prescribed for dispensary and hospital cases. Approximately 5,000 patients have been furnished glasses, and in about 15 per cent of these cases the glasses were furnished free of charge, and the remainder were provided at a figure considerably below retail prices.

A sufficient margin was maintained over cost of goods to provide for free glasses for patients without funds, and pay the actual cost of handling. None but goods of standard quality have been furnished, and the patients are assured correct lenses of good quality at a very reasonable price. This is a great improvement over the former practice of allowing patients to purchase glasses indiscriminately at retail prices with no check on accuracy or quality of goods obtained. In many cases it is probable that no glasses were obtained after examination and prescriptions were furnished, especially in cases where the patients were very poor. I feel that this department has done a great deal of good and would recommend that steps be taken to furnish more glasses to the poor, free of cost. This end may be attained through the cooperation of official charities.

SOCIAL SERVICE

No attempt has been made to organize a social service department. The needs of the institution along other lines have outweighed this phase of its work. Fortunately, the cooperation of many of the official charities of Chicago have been available, and partly provided for this need. I wish to commend especially the work of the Visiting Nurse Association of Chicago. During 1919, 2,105 cases were given follow-up care by their nurses. Complications following nose and throat operations have been reported and the patient returned for further observation in many cases. This service has been very acceptable to the patients and has resulted in a kindly feeling for the institution.

Mention should also be made of the helpful cooperation of the United Charities, the Jewish Charities, the Society for Prevention of Blindness, and the Improvement Association for the Blind, and many others. It is recommended that a social service department be maintained when the transfer is made to the new quarters.

NURSING SERVICE

Great difficulty has been encountered in maintaining an adequate staff of trained nurses. The difficulty has been greater since the war than it was during the period of actual mobilization, due probably to the increase of wages paid nurses doing private duty. It is probable that the nursing problem will adjust itself satisfactorily in the future in keeping with the general economic readjustment now going on. It has been possible to make up for the shortage in part, by increasing the number of attendants, and employing them wherever feasible, in place of graduate nurses.

DOMESTIC SERVICE

Even greater difficulty has been encountered here, than in the nursing department, in getting or keeping an adequate force. Domestic help has been scarce and of poor quality. The practice of hiring convalescent patients from State hospitals for mental disorders has been a means of meeting this situation. Two-thirds of the personnel of the domestic force has been obtained from this source and many of them have been efficient and faithful employees. Fortunately, many of the attendants and nurses at the infirmary have had experience in the hospitals for mental cases, and are well adapted to the supervision of this class of workers. There have been but four cases where it has been necessary to return the patient to the hospital because of mental unfitness. As outlined in a previous report, the chief nurse has had charge of the domestic force as well as all nurses and attendants. This plan has been found practicable for a hospital of this size, but has been made difficult because of shortage of help.

A noticeable improvement in this department has been accomplished in regard to the handling of food for bed cases. A modern food cart has been provided, so that food may be transported and served hot at the bedside. Formerly all bedside trays had to be carried by hand from the kitchen, and usually arrived in a disordered state, with dishes cold and unpalatable.

The care of rooms, wards and beds has been neglected due to lack of efficient domestic help. The building is old and walls, ceilings, floors and woodwork are in bad condition. It is not surprising that vermin has given much trouble. It is recommended that a contract be let to some company making a business of vermin extermination, so that the building may be treated at regular intervals and kept rid of this nuisance.

REPAIRS TO BUILDING

Interior decorating of wards, operating rooms and clinic department has been carried out as needed. The entire building has needed paint and calcimine, but funds have been inadequate to cover more than the most used portions of the building. It is deemed inadvisable to spend money freely on building repairs, as the new building is under way, and should be ready for occupation in about a year from this time. The need for the new building is urgent and it is hoped that the necessary appropriation will be granted to hurry this new plant to completion.

FINANCIAL

In view of the increased cost of food, fuel and medical supplies, it is not surprising that funds for ordinary operating expense should have proven inadequate as has been the case in most public institutions. Salaries and wages have been amply provided for, up to the time of staff reorganization. The substitution of full time medical assistants for part time assistants has made necessary an increased allowance in this

fund. I am quite convinced that the improvement in the morale and efficiency of the clinical staff will more than compensate for this increased expenditure.

A generous portion of the equipment fund remains unexpended due to the fact that the new building has not been ready for use during the life of this appropriation. It is recommended that such apparatus be purchased, as may be required, to facilitate laboratory and other scientific work, while the institution remains in its present quarters; such equipment may be readily transferred to the new building when completed.

TRAVELING CLINICS (EYE AND EAR)

SUMMARY OF ITEMS OF ESPECIAL INTEREST IN CLINIC REPORT PERIOD COVERING MAY 10 TO NOVEMBER 10

Clinics organized and operating in five counties: In Jefferson at Mt. Vernon; in Saline at Harrisburg; in Franklin at Benton; in Williamson at Marion; in Jackson at Carbondale; in Union at Anna (substituted for Jackson after January 1, 1921).

Clinic sessions have covered a period of 91 days in six months; 1,164 new patients have registered at the general clinics; 1,221 pupils in public schools have had vision tests and general inspection of eye conditions; 336 pupils in public schools have had lid inspections for trachoma; 2,721 persons have therefore been under examination and observation; \$7,142.75 is the total cost of the clinics and all associated work; \$2.62 is the per capita cost for 2,721 persons; 38 per cent (434 patients) came from rural communities; 355 patients in general clinics were between 5 and 15 years of age; 258 patients in general clinics were between 30 and 50 years of age; note favorable prognosis in over 900 cases.

Twenty per cent (244 patients) were diagnosed as having trachoma; 180 additional cases of trachoma are known to field workers from clinics; 424 cases of trachoma are known through the clinic service; 51 per cent of the trachoma cases came from the rural communities; 34 years is the average age of the trachoma patient; 25 per cent of the trachoma patients registered at the clinic were blind from it; 28 school children were diagnosed as having trachoma in one clinic; 23 school children and one teacher were found to have trachoma in another rural community; 34 local organizations have endorsed the work of the clinics; 3,085 lines of news text have been printed gratuitously by 16 daily and weekly papers; 20 public meetings have been addressed in the interest of the work; 300 bulletins have been posted in 55 different communities.

(November 19 arrangements were made to carry this work as public school clinics under the auspices of the Illinois Society for the Prevention of Blindness through funds guaranteed by organizations in the five counties, until such time in the late winter as the Department of Public Welfare can assume it.)

REPORT OF PREVENTION CLINICS—MAY 10 to NOVEMBER 10, 1920— INCLUDING PERIOD FOR OPERATIVE TREATMENT SEPTEMBER 10 TO OCTOBER 15

Operated jointly under three State departments with the American Red Cross Society and the Illinois Society for the Prevention of Blindness. Conducted in five counties of southern Illinois.

REPORT COVERS

1. Plan of organization.
2. Agencies in joint operation.
3. Function of each agency.
4. Local endorsement and assistance.
5. Number, location, nature and general operation of clinics.
6. Statistics covering:
 - Number of patients.
 - Average age of patients.
 - Number, percentage and average age of trachoma patients.
7. Cost of operation:
 - Actual.
 - Estimated, including salaries of contributed service.
 - Cost per capita for patients.
8. Special report on Mt. Vernon as treatment clinic.
9. Some significant facts as background of trachoma patients.
10. Analyses of diagnoses with prognoses and tabulated results.
11. Proposed plan for winter period of four months—October, 1920, to January 1921.

Submitted to chairman of sub-committee on trachoma Illinois Society for the Prevention of Blindness, November 10, 1920. Dr. Hallard Beard, assistant director of clinics. Marguerite Whiting, in charge of field work. Marion A. Campbell, clinic organizer.

PLAN OF ORGANIZATION

State Department of Public Welfare.

- To furnish two social workers with salary and expenses.
- To pay salary and expense of one full time physician.
- To pay travel expense for director for consultation trips.
- To pay travel expenses and maintenance while in field of field secretary and secretary of the Illinois Society for the Prevention of Blindness.
- To pay part time salary of nurse as clinic attendant.
- To pay for stenographic and clerical assistance.
- To supply all drugs and supplies (medical).

University of Illinois College of Medicine (Department of Ophthalmology).

- To furnish director.
- To furnish full time physician as assistant director.
- To furnish all supplies (for records and files).
- To furnish instruments and other equipment for physician.

State Department of Public Health—American Red Cross Public Health Nursing Service.

- To furnish nurse for clinic attendant with salary and maintenance.
- (Mt. Vernon Local Chapter of Red Cross to pay part time salary for nurse for community nursing and clinic follow-up nursing service for Mt. Vernon clinic, also janitor service and telephone toll for clinic.)

Illinois Society for the Prevention of Blindness.

- Offered plan for clinic organization and conduct.
- Assigned secretary for part time service in organizing, field secretary for full time service in field work, continuing both under salary.

Local Organizations at each Clinic Point.

- To furnish rooms for clinics.
- To furnish local committee of physicians as case committee.
- To endorse and cooperate generally as opportunity offers.
- Local eye specialist to take over treatment of patients in consultation with assistant director of clinics:
- (1) Except charity patients (Mt. Vernon Clinic).
- (2) All patients, except by special arrangement at all other clinics.

PUBLICITY

(Arranged for and carried out by representatives of the Illinois Society for the Prevention of Blindness.)

Lines of news text written.....	2,100
Lines of news text printed (including duplication in weeklies).....	3,085
Daily papers used.....	9
Weekly papers used.....	7
Posters put up in 16 townships of one county.....	32
Bulletins posted in 50 different communities.....	300
Public meetings addressed.....	14

LOCAL ENDORSEMENT AND SUPPORT

Clinic No. 1, Mt. Vernon, Jefferson County, Appellate Court Building, 3 rooms. County Medical Society; County Board of Supervisors; City Council; City Health Board; Chamber of Commerce; Rotary Club; Woman's Round Table Club; County Superintendent of Schools; daily newspapers; city churches; Board of Education; Red Cross Chapter; Salvation Army; Woman's Club; American Legion; County Blind Relief Committee

Clinic No. 2, Harrisburg, Saline County, Public Library Building, 2 rooms. Individual members of County Medical Society (no meeting in summer period); Board of County Supervisors; Public Library Board; Woman's Culture Club; health officer; city mayor; city churches; daily newspapers; Rotary Club. (Board of Education and other organizations not in session during summer period.)

Clinic No. 3, Benton, Franklin County, Elk Hall, 4 rooms. County Medical Society; daily and weekly newspapers. (Individual cooperation of Woman's Club members and of county probation officer, county judge and commissioners, no formal session during summer period for official action.)

Clinic No. 4, Marion, Williamson County, Public Library Building, 3 rooms. Chamber of Commerce; individual physicians; president of County Medical Society (no session); Public Library Board; daily and county newspapers; Home Farm Bureau representatives; Blind Relief Committee of county.

Clinic No. 5, Carbondale, Jackson County, Elk's Home, 3 rooms. County Medical Society. (Organizations now being conducted.)

NATURE OF CLINICS.

At Mt. Vernon, treatment, (charity patients only, others consultation).
At Harrisburg, Benton, Marion and Carbondale, consultation (examination and diagnosis given, referred for treatment to local eye specialists).

SESSIONS OF CLINICS.

Clinic.	Days.	New patients.	Average daily attendance.
No. 1. Mt. Vernon.....	76	623	8
No. 2. Harrisburg.....	7	234	33
No. 3. Benton.....	5	181	36
No. 4. Marion.....	2	90	45
No. 5. Carbondale.....	1	36	36

PERCENTAGE OF CITY AND RURAL PATIENTS.

	Total patients.	City patients.	Rural patients.	Per cent rural patients.
No. 1. Mt. Vernon.....	623	423	200	32
No. 2. Harrisburg.....	234	110	124	54
No. 3. Benton.....	181	105	76	42
No. 4. Marion.....	90	60	30	33
No. 5. Carbondale.....	36	32	4	11

ANALYSIS OF PATIENTS AS TO AGE GROUPS.

	Under 5.	5-15	15-30	30-50	50-65	Over 65.
No. 1. Mt. Vernon.....	17	228	84	133	80	68
No. 2. Harrisburg.....	6	56	35	57	42	19
No. 3. Benton.....	13	45	37	45	27	10
No. 4. Marion.....	4	26	16	23	14	8
No. 5. Carbondale.....						
	40	355	172	258	163	104

AVERAGE AGE OF ALL PATIENTS.

No. 1. Mt. Vernon.....	31 years
No. 2. Harrisburg.....	37 years
No. 3. Benton.....	31 years
No. 4. Marion.....	30 years
No. 5. Carbondale.....	36 years

This table does not include clinic after September 15.

TRACHOMA STATISTICS.

	Registered.	Not registered.	Total known.
No. 1. Mt. Vernon.....	104	10	114
No. 2. Harrisburg.....	63	109	172
No. 3. Benton.....	47	38	85
No. 4. Marion.....	24	9	33
No. 5. Carbondale.....	6	14	20
	244	180	424

1,164 patients registered at clinics show trachoma in 244 or 20 per cent.

TRACHOMA PATIENTS FROM RURAL LOCALITIES.

	Number patients.	Trachoma.	Rural cases.	Average age.	Number blind.
No. 1. Mt. Vernon.....	623	104	43	34	15
No. 2. Harrisburg.....	234	63	45	40	32
No. 3. Benton.....	181	47	27	32	9
No. 4. Marion.....	90	24	11	28	5
No. 5. Carbondale.....	86	6	2	-----	-----

Blind is recorded on basis of 2-10 vision in best eye.
25 per cent of trachoma patients blind when registered.
10 trachoma patients also have cataracts.

ANALYSIS AS TO AGE GROUP.

	5-15	15-30	30-50	50-65	Over 65.	Total.
No. 1. Mt. Vernon.....	30	12	15	25	18	100
No. 2. Harrisburg.....	15	7	23	17	6	68
No. 3. Benton.....	13	5	11	13	3	45
No. 4. Marion.....	11	4	4	5	-----	24
No. 5. Carbondale.....	1	1	2	1	2	7
	70	29	55	61	29	244

FOUND IN FAMILY AND NEIGHBORHOOD GROUPS—TYPICAL CASES.

Family (by ages)—
70-38-40-37-35-32-40-32-35-14-9.
11 members. 3 generations.
70-50-40-32-12-10-8.
7 members. 3 generations.
Neighborhood—
40-45-40-60-35-37-32-14-12-11-14-10-10-9-8-37.
16 persons living in two blocks.
16-12-12-10-9-7-6-5. 8
8 school pupils living in same block.

NECESSITY FOR FIELD AND EDUCATIONAL PERSONAL WORK.

In the community where the transportation service was donated for part time and the most extensive field work for trachoma was made possible thereby, 43 per cent of the trachoma patients coming to the clinic, came as a result of visits to the home in which educational work as to the nature and danger to sight was emphasized.

SUMMARY OF SCHOOL CLINICS (PERIOD FOR OCTOBER 25, TO NOVEMBER 10.

	Sessions.	Pupils examined.	City.	Rural.	Trachoma.	Suspected.
Saline County.....	4 days	250	22	228	24	12
Williamson County.....	1 day	86	86	-----	4	2
	5 days	336	108	228	28	14

Average age of all pupils examined.....12 years
Percentage of pupils examined from rural communities.....65 per cent
Percentage of pupils examined showing trachoma..... 8 per cent
Percentage of pupils examined showing possible trachoma..... 4 per cent

ANALYSIS OF DIAGNOSIS IN PUPILS EXAMINED.

Refractive error, complicated.....	14	Polar cataract.....	1
Same, uncomplicated.....	106	Blepharitis.....	5
Trachoma.....	28	Chalazion.....	4
Suspected trachoma.....	14	Hordeolum.....	3
Squint.....	12	Paralytic ptosis.....	1
Conjunctivitis (not trachoma).....	19	Corneal nebula.....	1
Optic atrophy.....	2	Normal.....	126
			336

RECORD OF VISION TESTS IN PUBLIC SCHOOL CHILDREN AT MT. VERNON—MAY 10, JUNE 10, 1920.

School pupils.	Below 1-10, 1 eye.	Both eyes.	Below 8-10, best eye.	Wearing glasses.	Crusted or inflamed lids.	Squint.	H. A.
878.....	30	32	21	18	21	6	74
282.....	21	42	28	4	10	1	41
144.....	17	16	34	2	3		29
160.....	11	18	11	5	22	4	38
216.....	27	33	3	5	9	2	57
41.....	3	4	17				11
1,321.....	109	140	114	34	65	13	250
Pupils with best eye below 8-10, other below 5-10.....							15
Pupils with both eyes below 5-10.....							14

RESULTS RECORDED FROM MT. VERNON CLINIC.

Refractions.....	117	Glasses ordered.....	92
Lid operations.....	17	Pterygia operated.....	5
Electric epilations.....	3	Plastic for ectropion.....	1
Cataract operations.....	4	Iridectomy operations.....	1
Evisceration.....	1	School children treated for trachoma.....	21
Refractions for school pupils (included in 117).....	51		

ANALYSIS OF DIAGNOSIS.

	Clinic number 1.	Clinic number 2.	Clinic number 3.	Clinic number 4.	Clinic number 5.	Total.
Refractive error (complicated).....	337	70	49	39	8	503
Same (uncomplicated).....	113	29	20	13	7	175
Trachoma.....	104	63	47	24	6	238
Conjunctivitis.....	90	42	38	7	1	177
Cataract.....	56	21	20	9	9	115
Corneal opacities.....	50	31	16	10	1	108
Phoria.....	15		10			25
Squint.....	18	2	1		2	23
Pterygium.....	33	3	7	1	1	45
Optic atrophy.....	8	11	3			22
Iritis.....	3	4	1	2	1	11
Interstitial keratitis.....	2	1	1	1		5
Dachryocystitis.....	2		1	1		4
Glaucoma.....	3	4	1	2	1	11
Blepharitis.....	22	15	10	7		54
Miscellaneous fundus lesions.....	19					19
Entropion.....	28	24	3	5	1	61
Ectropion.....	2	1				3
Trichiasis.....	2	23	6	3	1	35
Symphlepharon.....	1	12	4			17
Chalazion.....	6	4	3	6	1	20
Hordeolum.....	11		2	1		14
Amblyopia exanopsia.....	11	2	2			15
Congenital amblyopia.....	1					1
Vitreous opacities.....	7					7
Lid tumors.....	5					5
Choroiditis.....		3	3	1		7
Corneal ulcers.....		1	1	1		3
Tarsal cellulitis.....	1					1

ANALYSIS OF DIAGNOSIS—Concluded.

	Clinic number 1.	Clinic number 2.	Clinic number 3.	Clinic number 4.	Clinic number 5.	Total.
Retro-bulbar neuritis.....	1					1
Epsicleritis.....	1					1
Congenital lid pyosis.....	1					1
Sub-conjunctival hemorrh- age.....	4					4
Foreign bodies.....	3	1				4
Nystagmus.....	13	1				14
Injury.....		1	1			2
Myopia.....		3	3	2	2	10
Presbyopia.....	18	18	12	8	1	57
Irido cyclitis.....		1		1		2
Hyperopia.....		3		2		5
Retinitis.....			1	1		2
Dislocated lens.....			1			2
Retinitis pigmentosa.....	2					2
Amorosis.....	1					1
Keratoconus.....	1					1
Anaphthalmos.....	1					1
Proptosis from orbital tumor.....				1		1
Redundant conjunctival folds.....					1	1
Keratactasia.....		1				1
Senile lens sclerosis.....			1			1
Brain tumor.....	1					1
Neuro retinitis.....	1			1		2
Hemiangio sarcoma.....				1		1
Microphthalmos.....				1		1
Orbital tumor.....				1		1
Coloboma of choroid.....	1	1				2
Chronic frontal sinusitis.....	1	1				2
Meibomian cyst.....	1					1
Normal.....	19	14	10	8		51
Blind.....	23	45	14	5		87
Partially blind.....	12	17	3	1		33
Diagnosis deferred.....	36					36

ORGANIZATIONS REPRESENTED AND TIME AND EXPENSE FOR EACH.

Organisation.	Days in field.	Total cost.
Department of Public Welfare—		
■ Miss Jack.....	65	\$933 61
Miss Dorsey.....	25	172 69
Miss Keeler.....	48	426 70
	138	*\$1,533 00
University of Illinois—		
Dr. Beard.....	148	\$1,653 86
Dr. Haynes.....	27	170 00
	175	*\$1,823 86
Department Public Health—		
Miss Clark.....	67	\$587 00
Miss Kelley.....	30	75 00
	97	\$662 00
Illinois Society for Prevention of Blindness—		
Miss Campbell.....	126	\$877 57
Miss Whiting.....	124	707 32
	250	*\$1,584 89
■ Total days spent.....	660	
— Total expended.....		\$5,003 75
Salary item contributed.....		1,530 00
Actual cost.....		\$7,142 75

THE WELFARE COMMISSION

ANNIE HINRICHSEN, *Executive Secretary*

I submit herewith a summary of my biennial report made to the Board of Public Welfare Commissioners and of the recommendations of the commission.

Since the last biennial report the executive secretary of the commission has made approximately 200 visits to State institutions of the Department of Public Welfare and 70 visits to institutions and agencies other than Illinois State institutions. Detailed reports of these visits have been made to the Director, the division heads and the commission. These numbers of visits do not include those which were made entirely for conferences.

The executive secretary has delivered approximately 30 addresses on the work of the Department of Public Welfare before schools and organizations. She has written numerous articles on the work of the department, the most important being a handbook for social workers, "The Department of Public Welfare, Its Organization and Scope of Work." As secretary of the State Conference of Charities and Corrections she has had the management of the two annual meetings of the conference. She has represented the Department of Public Welfare at various conferences, local, State and national, of organizations for social work. She has directed the work of the office of the commission.

From May 15 to June 10, 1919, the executive secretary was acting managing officer of the State Training School for Girls during the absence of Dr. Hayes. She has visited institutions in Indiana, New York, Massachusetts, New Jersey and Pennsylvania.

WORK OF OTHER MEMBERS OF THE COMMISSION

The inspector of institutions, Miss Elizabeth Jack, has completed a survey of the county institutions and her report has been published. Miss Jack has addressed clubs and organizations and written articles on her work. She has made special and intensive investigations in addition to her routine inspection work.

For a part of the time we have had the services of another inspector, Mrs. Blossom Caldwell, who has made inspections and investigations and assisted with the office work.

Miss Alice Keeler, stenographer for the commission, has done the work of an assistant secretary. Because of the character of the requests which come to this body, it is imperative that there shall be at all times

in the office a person with training in social work and with a thorough knowledge of the activities of the Department of Public Welfare. Miss Keeler has this equipment and she has been invaluable in handling the office work. She has also made investigations and inspections. For several weeks she was detailed as historian for the eye clinics in southern Illinois.

COOPERATION WITH DEPARTMENT OF PUBLIC WELFARE

The relations between the commission and the Director of Public Welfare have been those of assistance, cooperation and loyal support. These relations are the result of a definite policy on the part of both the commission and the Director. The executive secretary was instructed by the commission to give the Director every possible assistance and to use all of the resources of the commission for this purpose. In return, the Director has furthered the work of the commission by placing at our service the resources of the Department of Public Welfare.

This policy has not interfered with freedom of thought and action on the part of the commission. Independent investigations, inspections and surveys have been made. Criticisms, when necessary, have been frank. But the spirit of our work has been throughout one of cooperation and we believe that by this spirit alone can we best serve the interests of the public welfare service.

In the biennial report of two years ago we summarized the work of the Department of Public Welfare and the plans of the Director for the future development of the department. We have seen many of these plans successfully put into effect and we have seen more recent ones developed. The standards of the institutions have been raised. The activities of the department have been extended to include preventive work and after-care. And the great progress of the department has been made under the most adverse circumstances caused by war and economic conditions. Back of the department have been a vision and an ideal which have found definite expression in concrete results.

RECOMMENDATIONS

We wish to make special mention and commendation of certain lines of work of the department which have contributed largely to the success of the Director's administration and to recommend that they be extended.

1. The appointment of a children's committee to study the methods of care of children in Illinois and to submit a plan for the promotion of the interests of all children of the State.
2. The program for the feeble-minded.
3. The central group of hospitals and the research departments.
4. The social service department.
5. The development of occupational therapy.

6. The extension of the clinics.
 7. The program for the care of the epileptic.
 8. The employment of experts for general supervision of highly specialized work in the institutions, such as the State Dietitian and the State Surgeon.
 9. The inauguration of statistical records in the general office.
- In addition we recommend:

1. The establishment of a central registration bureau for all wards of the State.
2. The adoption of the findings of the children's committee.
3. The establishment by legislative act of a temporary commission to continue the work of the present children's committee in making an intensive investigation into the methods of care of children in Illinois.
4. The centralization within the department of all institutions and agencies dealing with the care of the blind.
5. A program for the care of the woman offender which shall include the establishment of an institution for women misdemeanants, the inmates of the Woman's Prison to be cared for in this new institution.

The investigations, inspections and surveys upon which these recommendations are based have been submitted from time to time to the Director and are on file in the offices of the commission.

MOVEMENT OF POPULATION—INMATES FOR THE YEAR ENDING JUNE 30, 1930.

Institutions.	July 1, 1919					Admitted.	Readmitted.	Discharged from institution.	Discharged on parole.	Deaths.	Dropped from roll.	June 30, 1920.				Paroled during year.	Escaped during year (24 hours or more).	Average population present.
	Present.		Absent with leave.	Absent with- out leave.	Males.							Females.						
	Males.	Females.																
													Males.	Females.				
-	1,034	1,104	98	46	663	90	102	332	247	108	109	30	972	1,135	297	242	2,110	
-	1,760	1,440	127	39	729	127	129	273	302	121	114	36	1,780	1,467	440	259	3,205	
-	1,083	1,005	60	18	506	68	62	142	243	23	53	37	1,124	1,064	176	142	2,182	
-	940	757	74	22	442	137	91	207	196	43	76	17	964	778	271	105	1,712	
-	853	741	26	19	315	57	68	99	124	44	39	12	891	739	140	108	1,606	
-	1,080	1,022	37	14	398	100	85	96	276	50	31	24	1,066	1,013	111	125	2,097	
-	137	-	-	6	57	7	5	-	3	0	-	7	185	-	-	16	156	
-	1,798	1,485	255	54	1,616	265	556	707	332	139	254	73	1,700	1,492	939	401	3,256	
-	330	363	22	28	218	23	22	11	72	114	20	22	348	364	72	127	703	
-	1,083	1,084	158	94	248	17	229	85	62	106	126	16	948	1,080	124	71	2,057	
-	98	-	13	3	218	41	87	27	10	101	3	7	323	-	14	30	280	
-	-	-	328	-	64	15	-	-	2	49	358	-	-	-	-	-	258	
-	-	-	-	-	42	177	1	-	-	3	215	-	-	-	-	-	209	
-	55	25	7	-	8	1	6	1	4	-	2	-	56	27	-	-	53	
-	941	284	489	2	235	221	74	272	202	21	556	9	787	258	2,298	0	1,249	
-	-	93	13	-	20	10	1	15	18	-	12	-	-	90	38	-	95	
-	244	174	359	8	146	12	121	-	1	-	480	16	186	128	-	8	357	
-	-	463	531	5	242	-	43	116	3	3	676	19	-	431	240	28	440	
-	842	-	1,345	3	823	12	28	832	3	149	1,055	15	843	-	647	158	831	
-	1,509	-	248	92	590	126	41	270	21	205	267	158	1,556	-	297	76	1,509	
-	-	44	15	-	17	2	2	13	-	3	18	2	-	40	17	3	44	
-	903	-	394	8	305	42	46	238	5	-	489	10	1,028	-	256	8	1,030	
-	935	-	235	4	388	75	116	313	6	59	266	8	1,073	-	360	7	996	
Total	15,725	10,074	4,901	465	8,180	1,624	1,949	2,899	2,329	1,350	5,187	508	15,838	10,096	6,847	1,324	26,568	

PER CAPITA COST YEAR ENDING JUNE 30, 1920, COMPUTED ON CASH EXPENDITURES FROM APPROPRIATIONS AND INSTITUTION
TRANSFER OF PRODUCTS.

No. of I.	Total.	Salaries and wages.	Depart- mental office expenses.	Traveling expenses.	Operating supplies and expenses.	Repairs to present buildings, grounds, and equipment.
310	\$247 50	\$ 84 93	\$1 04	\$0 59	\$143 19	\$17 75
305	280 79	89 75	97 97	31	158 57	30 99
323	221 70	84 87	98	46	120 53	14 05
713	273 02	103 35	1 14	28	147 99	30 24
606	266 53	101 59	65	31	148 68	15 10
097	281 39	92 16	64	12	163 55	24 93
155	414 74	156 57	1 98	1 77	239 06	15 36
256	262 19	83 27	1 97	40	148 78	27 75
702	288 87	97 30	98	70	157 38	32 61
067	274 13	87 50	50	26	163 99	21 71
280	475 01	162 95	2 11	90	257 80	51 24
259	576 96	221 05	1 74	2 53	204 59	47 00
209	542 57	305 71	4 43	7 11	183 94	42 69
53	422 31	209 48	6 92	40	190 40	15 11
249	268 06	101 85	54	17	140 46	25 06
96	455 32	175 92	3 63	1 60	257 04	37 53
397	536 56	187 30	2 59	1 66	293 59	23 74
440	433 59	158 54	3 54	5 27	231 05	45 19
331	455 23	127 35	3 15	3 31	260 98	50 99
509	332 49	89 98	2 35	1 37	209 50	30 29
090	310 32	97 28	2 00	54	185 25	24 65
966	340 99	96 14	3 18	90	213 40	27 37
44	502 87	190 80	4 17	3 30	247 20	57 50

TOTAL EXPENDITURES AND PER CAPITA COSTS BY INSTITUTION GROUPS, YEAR ENDING JUNE 30, 1929.

Classification.	Average number of inmates.	Salaries and wages.	Office expenses.	Traveling expenses.	Operating supplies and expenses.	Industrial working capital.	Repairs.	Equipment.	Buildings and permanent improvement.	Total.
MALE GROUPS.										
Average number of patients.....	17,038									
Total expenditures.....		\$1,549,517 84	\$19,083 04	\$6,616 33	\$3,543,034 44		\$205,540 36	\$33,311 47	\$128,333 97	\$4,074,336 96
Per capita cost.....		90 99	1 13	39	149 34		23 23			265 07
FEMALE GROUP.										
Average number of patients.....	2,057									
Total expenditures.....		180,176 75	1,216 49	508 87	337,319 08	2,654 96	44,664 93	8,415 84	61,634 23	634,569 93
Per capita cost.....		87 59	59	25	163 98		21 71			274 13
APRAXIC GROUP (NEW).										
Total expenditures.....		45,627 71	190 55	251 74	72,184 14		14,345 90	7,460 20	58,764 63	108,833 93
EDUCATIONAL GROUP.										
Average number of members.....	1,921									
Total expenditures.....		371,836 04	6,293 37	7,928 20	441,393 23	58,456 98	96,717 61	18,195 10	15,371 06	1,016,507 61
Per capita cost.....		193 54	3 37	4 12	230 75		50 34			480 99
PARALYTIC GROUP.										
Average number of members.....	1,701									
Total expenditures.....		210,796 26	1,830 54	943 46	314,908 59		53,708 63	3,434 53	1,318 00	580,949 06
Per capita cost.....		123 92	1 07	55	185 13		31 56			343 24
EYE AND EAR INSTITUTION.										
Total number treated.....	45,547									
Total expenditures.....		50,263 79	1,007 13	768 83	44,443 51	13,696 37	4,729 64	1,909 87	9,795 00	120,768 64
Per capita cost.....		90	22	01	80		06			1 81
FEMALE GROUP.										
Average number of inmates.....	3,578									
Total expenditures.....		340,006 28	9,576 38	3,665 73	730,129 25	641,708 77	85,776 06	9,919 23	49,335 37	1,809,166 17
Per capita cost.....		95 08	2 67	1 02	204 06		23 94			326 71

DIVISION OF VISITATION OF ADULT BLIND

CHARLES E. COMSTOCK, *Division Chief*

It is indeed a great honor to have the privilege and pleasure of submitting the fifth biennial report of the Division of Visitation of Adult Blind, covering the period from July 1, 1918, to June 30, 1920.

The staff of six teachers in this division is composed of two blind male instructors, Messrs. J. F. Fitzgerald and E. H. Menke; two blind female teachers, Misses A. J. Johnson and M. T. Conway, and two sighted female instructors, Mrs. Selma DeBlois and Miss R. T. Condon. There has been little change in the personnel of our division during this period except the addition of the services of Instructors Conway and DeBlois, and the securing for a short time of the services of Harry W. Hitchcock.

PURPOSE OF DIVISION

The Division of Visitation of Adult Blind was created October 1, 1911, being the immediate outgrowth of the five year's philanthropic activities of the Chicago Woman's Club in teaching the blind home industries in Chicago. From the best information obtainable, we find that there are a little less than four thousand blind persons in the State of Illinois, 75 per cent of whom lost their sight in adult life. The object of our work has been to locate and give instruction to newly blinded adults in such subjects as would best fit them for their proper places in society, add to their comfort and convenience and teach them a new way in which to do the old things. We endeavor to bring happiness to sightless shut-ins, and inspire those with more courageous natures to travel alone (migrate), depending upon themselves as far as possible, instead of upon others, and to secure remunerative employment. The blind pupils are given instruction in their homes free of charge as follows:

Reading Moontype, reading and writing full and contracted Braille, embossed shorthand, operating the dictating machine, typewriting, reed and raffia work (basketry, etc.), hand and machine sewing, knitting, crocheting, tatting, mat making, chair caning, weaving on the Danish loom, fibrestrand chair weaving, broom making and the tuning and repairing of pianos. The last four subjects we prefer teaching in classes. Ninety-four pupils have finished their courses of instruction during this biennium in the subjects as shown in the list appended to the end of this report. Beside the list given as those having finished their course

of instruction, the teachers have visited 195 other blind people, made their registration and aided them in other ways.

OPPORTUNITIES OPEN TO ADULT BLIND

Illinois was the seventh State in the Union to provide home instruction for its adult blind. The sightless teacher rekindles self-confidence in her pupil by being able to demonstrate in a practical way that which is attainable. All the students are first taught to read and write and then are instructed in some hand work. Piano tuning and broom making for the blind are the most remunerative and easily learned trades. The men are taught these trades and are provided at State expense with all necessary equipment and supplies during their course of instruction. The so-called Buckeye shops (broom shops) throughout the State, which have been established by a number of our men, have been well patronized by the communities in which they are situated. Home work from outside industries with small remuneration is provided for our shut-ins. The women at the Home for the Blind especially seem to appreciate and enjoy the work which they are doing in a class. From the sale of the articles at various bazaars held in cooperation with philanthropic women's clubs, our shut-ins have been earning approximately \$2,000 a year. The benefits accruing to the pupils from the home teaching department however, should not by any means be based upon the financial returns. According to the testimony of certain newly blinded adults, who were suddenly thrown into despondency with the affliction of loss of sight, they have been saved from committing suicide by the help and happiness which have come to them through the visits and instruction of the home teaching department.

Of the 300,000 pianos manufactured in America annually 70 per cent are of the player type. Chicago and immediate vicinity produce approximately 25 per cent of these instruments. In 1887 there was but one blind tuner, Mr. Howard, in this locality employed in a piano factory. The opportunities for the blind in this line have been recognized by the State institutions, which have laid special stress upon the importance of this trade. Our tuning department, which has been in existence a little over four years, has, under the careful guidance of E. H. Menke, proven itself to be of great importance and value to those capable of learning the tuning and repairing of pianos and player pianos. All of our tuning graduates have been able to secure profitable employment, either as factory or custom tuners. Today, every piano company of any importance has one or more blind tuners.

This division has been instrumental in securing employment for twenty-three blind people, seven of whom were taken from the Cook County Infirmary at Oak Forest, and placed in outside commercial establishments, and whose total yearly wage approximates \$24,000. Such work as placing the blind in factories and offices with their sighted competitors has to be done carefully and the persons properly selected.

In order to carry on this work correctly, we should be provided with a trained social worker. Our people are most happy when they are kept busy and are paid a fair wage.

Miss Lena Hill, a young lady of 23, living in Springfield, after being taught by this division to operate the Ediphone, and to write properly on the typewriter, secured a position as dictaphone operator with an insurance company of that city, and was the first blind woman in the State of Illinois to be placed in such a position. Since that time our State school has been teaching its pupils dictaphone work and many have secured similar positions after their graduation.

Bench work and the assembling of various parts of machinery and tools and the making of boxes, etc., are especially adapted to the blind. Many concerns have opened their doors to the hiring of blind help; Montgomery Ward and Company are employing more of them than any other concern in Illinois, due to the personal interest which Honorable C. H. Thorne, director of public welfare has manifested in the cause of the sightless.

IMPROVE WORKING QUARTERS

On March 22, 1920, the Division of Visitation of Adult Blind moved its headquarters into the factory building of the Illinois Industrial Home for the Blind, where a splendid suite of offices had been erected for this purpose. At that time the entire industrial work for the adult blind was consolidated and placed under one management. The working conditions have been reorganized and modern equipment installed in our factory. Two power broom corn sizers are operated by blind men, and demonstrate the possibilities which are open to the sightless. The men operating these machines grade our corn into seven sizes whereas the hand sizers were able only to grade corn into three. Heretofore the complaints which were sometimes made against our brooms were that they would come loose on the handles; now, however, the men have learned to operate power winders, and with these machines their work has been made much easier, the brooms are shaped up better and with the uniform and steady tension of the power winder on the wire, the brooms are wound very tightly on the handles, which completely eliminates the former fault.

We are especially proud of the work which is being done by our two blind power sewers. In the past a sighted man was employed to do the sewing; occasionally a few blind hand sewers were employed. And now it is exceedingly gratifying to know that our two blind operators of the Baltimore stitchers are sewing the entire daily output of from 50 to 70 dozen.

We are allowing and encouraging the blind throughout the State to buy their raw materials from our factory at cost prices, as by so doing, they can save considerable. With the provision of pay to pupils in

factory made in Special Order No. 1634, there has accrued much benefit to needy blind persons. In time it is our hope and expectation to bring the broom industry to a more commercial basis, and to introduce into our factory such industries as reed work, box making, machine knitting, etc., for which our people will receive a wage based on the time they work, their efforts being subsidized by the State, the raw materials to be furnished and labor paid by, and the finished product to be returned to such outside commercial concerns, as will place their work here. A start in this direction has already been made in the reed work. Our main purpose is to provide the blind in all walks of life with opportunities for helping themselves, and enabling them to earn what is necessary for their comfort and existence. At the same time we have made provision so that we are protected from the possible influx of blind dependents from other parts of the country.

RECOMMENDATIONS

Illinois is one of the foremost states in its philanthropic attitude toward and its method of dealing with the blind. The counties in this State are obligated by law to pay to their needy sightless citizens an annual pension of \$150. The pension, however, should be graded and increased according to the greater need of those sightless citizens incapable of earning their livelihood. By so doing, many now living in county almshouses and who have been forced to enter there only on account of loss of sight, would still live in their natural, normal environments.

Only 42 per cent of the adult blind are good industrial prospects. The home branch of the Industrial Home for the Blind provides a home for approximately 90 men and women, 50 per cent of whom have entered this institution after their graduation from school. Thus only $2\frac{1}{2}$ per cent of the State's blind population is provided with a home. As one of the results of the mingling of the sexes in this home, there have been about 45 cases of intermarriages of inmates, some of whom were absolute dependents and in a few instances, were subnormal. These people, of course have had to reside outside of the institution; but have still had to be cared for through public and private charity. The home should not be abolished by any means, but it is strongly urged that the State provide a separate home elsewhere for the blind women with equal provisions for their happiness and opportunities for their vocational training.

Report of
THE DEPARTMENT OF PUBLIC HEALTH
July 1, 1919, to June 30, 1920

STATE OF ILLINOIS
THE DEPARTMENT OF PUBLIC HEALTH

C. ST. CLAIR DRAKE, M. D., *Director*

GEORGE T. PALMER, M. D., *Assistant Director*

DIVISION OF COMMUNICABLE DISEASES

JOHN J. MCSHANE, M. D., DR. P. H., *Chief*

DIVISION OF TUBERCULOSIS

GEORGE T. PALMER, M. D., *Acting Chief*

DIVISION OF SANITATION

PAUL HANSEN, *Chief Sanitary Engineer*¹

HARRY F. FERGUSON, *Acting Chief Engineer*

DIVISION OF VITAL STATISTICS

SHELDON L. HOWARD, *Registrar of Vital Statistics*

DIVISION OF CHILD HYGIENE AND PUBLIC HEALTH NURSING

C. W. EAST, M. D., *Acting Chief*

DIVISION OF SURVEYS AND RURAL HYGIENE

PAUL L. SKOGG, *Supervisor of Surveys*²

BAXTER K. RICHARDSON, *Acting Supervisor*

DIVISION OF DIAGNOSTIC LABORATORIES

THOMAS G. HULL, PH. D., M. S., *Chief Bacteriologist*

DIVISION OF HOTEL AND LODGING HOUSE INSPECTION

W. W. MCCULLOUGH, *Superintendent*

DIVISION OF PUBLIC HEALTH INSTRUCTION

SAMUEL W. KESSINGER, *Acting Chief*

DIVISION OF SOCIAL HYGIENE

G. G. TAYLOR, M. D., *Chief*

¹ Resigned—May 15, 1920.

² Resigned—January 1, 1920.

THE DEPARTMENT OF PUBLIC HEALTH

C. ST. CLAIR DRAKE, M. D., *Director*

During the fiscal year, July 1, 1919, to June 30, 1920, the State Department of Public Health has become firmly established on a post-war basis. During the two previous fiscal years, matters having to do with the protection of the military population in the several camps and cantonments located in Illinois, the policing of zones surrounding these cantonments and other activities intimately associated with the war engaged a large part of the attention of the various divisions of the department. During these two previous years the personnel of the department, particularly those engaged in the more technical branches, was seriously disturbed on account of the fact that many of the department's technicians engaged in military service. During the past fiscal year the old-time personnel has been reestablished, and work has progressed on a peace-time basis.

In one particular, however, the influence of the war has been definitely felt during that year. Scales of salaries of every kind have been higher than at any time in the history of the department, and it has been found impossible to fill satisfactorily a number of positions created by the Fifty-first General Assembly at the salaries which seemed adequate at the time of the preparation of the biennial budget. For the same reason, there has been constant temptation for the older employees to give up positions in public service and to accept more lucrative positions outside.

The cost of travel, including railroad fares, sleeping car accommodations, hotels and all other factors, continued to increase steadily after the termination of the war, so that appropriations made during the session of the General Assembly early in 1919, which at that time appeared reasonably generous, have proven to be entirely inadequate, necessitating the curtailment of many activities of a progressive type which would have been very desirable.

This increase in costs has extended through every phase of government and, as these pages are written, in July, 1920, shows no tendency toward abatement.

This shrinkage in the productive worth of money has not necessitated the curtailment of any necessary activities, but has rendered impossible the progressive steps contemplated at the beginning of the biennium.

In the main, the general activities of the department during the past fiscal year have been directed upon the following lines:

(a) The completion of the organization of the department under the provisions of the Civil Administrative Code, and the re-establishment of personnel;

(b) The completion of agreements between the department and the various extra-governmental health agencies to prevent overlapping and duplication of effort and to secure complete coordination in all forms of health activity throughout Illinois;

(c) The development of a closer relationship between the department and the local health authorities throughout the State, based on a policy of maximum "home rule" in all of the various communities;

(d) The standardization of rules and regulations for the control of communicable diseases and the encouragement of the adoption of uniform sanitary and health ordinances and codes throughout the cities and villages of the State;

(e) The improvement in the methods of registration of vital statistics with the establishment of a better understanding between State, county and local registrars, with special educational activity to improve the registration of births so that the State may be recognized as a complete registration State;

(f) Meeting and combatting the influenza-pneumonia epidemic of the winter of 1919-1920;

(g) The development of new health activities proven desirable by war-time experience and by the experiences of other State health organizations.

I. DEVELOPMENT OF DEPARTMENTAL ORGANIZATION

During the fiscal year the Department of Public Health carried out its activities through the following twelve divisions:

Executive Division;

Division of Communicable Diseases;

Division of Tuberculosis;

Division of Sanitation;

Division of Vital Statistics;

Division of Child Hygiene and Public Health Nursing;

Division of Diagnostic Laboratories;

Division of Biological and Research Laboratories;

Division of Surveys and Rural Sanitation;

Division of Public Health Instruction;

Division of Social Hygiene;

Division of Lodging House Inspection.

In the experiences of the past three years, since the adoption of the Civil Administrative Code, this form of departmental organization has

proven entirely satisfactory. Several of these divisions—those carrying out the basic or fundamental activities of the department—have been completely organized and have had a reasonably adequate personnel. On account of the limited appropriations made by the last General Assembly, however, and the necessity for unusual economy due to the excessive cost of government, several of the divisions have remained in more or less skeleton form, their functions, however, being performed with reasonable efficiency either by their limited staffs or through cooperation with other divisions.

It is to be hoped that the Fifty-second General Assembly will see the wisdom of making appropriations adequate to establish all of these twelve divisions on a permanent basis.

II. COOPERATION OF GOVERNMENTAL AGENCIES

At the termination of the war a number of powerful volunteer organizations found themselves with large personnel and large resources, but without a definite future program. For a time it appeared that an unnecessary number of extra-governmental agencies proposed to engage in peace-time health work of one kind or another. As executive officer for the national organization of state health authorities, the Director of the Department of Health was instrumental in bringing about nation-wide agreements between the state health authorities, the American Red Cross, the National Tuberculosis Association and the National Organization for Public Health Nursing, and a clearer understanding between state health authorities and the American Public Health Association and the American Medical Association. These nation-wide agreements provided for definite cooperation between the Departments of Public Health of the individual states, and the state divisions of the national extra-governmental organizations.

During the past year the close cooperation between the Illinois Tuberculosis Association and the State Department of Health, which has prevailed in the past, has been continued with most satisfactory results and definite working agreements, particularly in the supervision of public health nursing, have been entered into between the Department of Health, the Illinois Tuberculosis Association and the Central Division of the American Red Cross in which the standards of nursing service of the National Organization for Public Health Nursing have been adopted for application to both governmental and extra-governmental nursing agencies.

With the passage of a reasonable amount of time necessary to readjustment, it is believed that all of the extra-governmental agencies desiring to do so may engage in local and state-wide health activity, but that there will no longer be the expensive duplication of effort, friction and controversy which a few months ago appeared to be inevitable.

In all of the agreements for cooperation between the state-wide governmental and extra-governmental agencies, the State Department

of Health has been recognized as a proper place of contact and as the proper coordinating agency, but a distinct effort has been made by the department to accord to the extra-governmental or volunteer agencies all of the freedom, initiative, latitude and authority consistent with the provisions of the Civil Administrative Code, and of other State laws.

It is to be hoped that this form of cooperation may be adopted locally in all of the cities and communities of the State, the local health department being the coordinating agency for all of the local health activities. This desired end cannot be accomplished, however, until all of the health jurisdictions in the State are efficiently organized with competent and responsible heads. It must be admitted with considerable regret that there are still many communities in the State where the local health departments are so inadequate, so poorly financed and so inefficiently directed, that it is impossible to induce the local extra-governmental agencies, some of which are strong and influential, to recognize or accept the leadership of the local health department.

III. COOPERATION OF LOCAL HEALTH AUTHORITIES

During the past year the department has made a continuous and constant effort to establish the closest cooperation with local health authorities throughout the State. In extending its influence into the local communities, it has been made clear that it is the policy of the department to serve in an advisory and standardizing capacity and in no sense as a dictator of the details of local health organization or administration. It is believed that the adoption and promulgation of this policy has gone far toward establishing a closer relationship between local and State health authorities and will be more effective in the stimulation of efficient local health administration than any policy contemplating extension of power and authority by the State Department of Health in local affairs.

IV. STANDARDIZATION OF RULES AND REGULATIONS

During the year, there has been a complete revision of all rules and regulations for the control of communicable diseases in harmony with prevailing scientific practice, and there has been a continuous effort to stimulate the adoption of local ordinances and health codes in harmony with these revised rules and regulations.

In many instances the department has furnished to municipalities model health codes through the adoption of which there will be uniformity of action in health matters in all parts of the State.

V. IMPROVED VITAL STATISTICS

For many years Illinois remained one of the few major states in the Union unrecognized by the Federal Bureau of the Census as a registration State in vital statistics. On October 14, 1918, the Bureau of the Census recognized Illinois as a registration State for deaths, but up to

this time the reports of births have not been sufficiently complete to justify the Federal Government in the complete recognition of Illinois as a registration State.

During the past year every possible effort has been made to interest the medical profession, health authorities, civic organizations and the public as a whole, in the necessity for complete birth registration, with the result that the returns have materially improved. It is hoped that during the coming fiscal year birth reports will be sufficiently complete to warrant acceptance of Illinois in the registration area for both deaths and births.

Under the plan of birth and death registration effective in Illinois, it is contemplated that there shall be complete records in the hands of the State, county and local authorities. During the past year a method of cross checking has been adopted which for the first time guarantees the proper carrying out of this plan so that at the present time the birth and death records in the hands of local health authorities, county clerks and the State Department of Health, are complete for their several jurisdictions.

VI. INFLUENZA-PNEUMONIA EPIDEMIC 1919-1920

All of the resources of the department were thrown into the influenza epidemic, beginning late in 1919 and extending into the spring of 1920. This epidemic, while not as devastating and paralyzing as the epidemic of the previous year, was exceedingly serious in character. It is believed that the better facilities of the Department of Public Health and the preparation brought about in local communities at the instance of the department, saved many human lives and prevented a vast amount of human suffering, if they were not responsible for the decreased ravages as compared with the previous year.

VII. NEW HEALTH ACTIVITIES

Our experience in the World War and in the influenza-pneumonia epidemic of 1918-1919, indicated the need for a number of new health activities which had not been considered essential in years past. These new activities are dealt with in detail in the following pages, but may be briefly summarized as including improved methods in the handling of communicable diseases with an entirely new attitude toward influenza and pneumonia; new activities in the prevention and suppression of venereal diseases; the more general employment of public health nurses, both in local and State activities; the extension of diagnostic clinical service in cooperation with the medical profession; the more extensive production of preventive and curative vaccines, sera and other biological products; the establishment of a more intimate contact with the medical profession of various communities through the appointment of assistant collaborating epidemiologists in all of the counties of the State.

EXECUTIVE DIVISION

The Executive Division of the State Department of Public Health is made up of the director, assistant director, the chief clerk and a staff of accountants and clerks having to do with the coordination and general supervision of all of the activities of the several divisions. To this division the chiefs of all of the divisions make regular reports and in it general programs are outlined and the operation of the several divisions coordinated. The Executive Division is also the point of contact between the department and other State departments or offices, and the means of contact with all outside governmental and extra-governmental agencies.

In addition to the general executive supervision of the department carried out by the director, through this division, together with accounting, provision of supplies and other general activities, the director has given a large share of his time during the past fiscal year to the coordination of governmental and extra-governmental agencies on a nation-wide basis.

The chief activities of the division may be generally classified: (a) placing the department on a post-war basis; (b) the development of cooperation between governmental and extra-governmental agencies; (c) special investigations including a study of invasion and prevention of bubonic plague; (d) the development of closer cooperation with the medical profession of the various counties of the State, through the State and county cooperating health service and the appointment of assistant epidemiologists in all counties; (e) general educational activities in conjunction with the Division of Public Health Instruction and (f) the expansion of diagnostic and clinical service.

The Executive Division has had to deal with the intricate problems of financing the department with appropriations made by the Fifty-first General Assembly which did not contemplate the radical increase in the cost of government. For the most part, the personnel of the various divisions has been reestablished on practically the same basis prevailing with the advent of the war, but a number of valuable employees have found it necessary to sever their relationship with the department because the department has found it impossible to meet the competitive financial offers of outside organizations. On the whole, however, all divisions have been efficiently manned and with a few exceptions, all of the contemplated activities of the department have been in operation.

With the termination of the war, it became imperative to coordinate and bring closely together the activities of the several strong and influential volunteer health organizations of national scope, and to bring these extra-governmental organizations in close contact with duly authorized governmental organizations.

To this end the director of the department, who has served also as the executive officer for the national organization of state health officials, has devoted much of his time in conference with the executive heads of national health organizations, these conferences resulting in agreements which will prove beneficial, not only to public health work in Illinois, but to that of the entire Nation. The assistant director of the department has served as chairman of a committee of the Executive Committee of the National Tuberculosis Association, charged with the responsibility of working out a plan of cooperation with other health organizations and has also served as president of the Illinois Tuberculosis Association authorized to represent that organization in bringing about a cooperative health program within the State.

The principal agreements resulting from numerous conferences, held for the most part in the city of Washington, are as follows: A memorandum of policy of cooperation between the state health authorities and the National Tuberculosis Association, as amended December 1, 1919; a suggestion of principles for the cooperation of the Red Cross with the state department of health and other agencies in the field of public health nursing, with amendments approved by the executive committee of the Conference of State and Provincial Health Authorities, July 29 and October 25, 1919; an agreement between the American Red Cross, the National Tuberculosis Association, and the National Organization for Public Health Nursing, for the promotion of public health nursing, and a suggested plan for cooperation between the Red Cross, the State Tuberculosis Association in states in which there is no Bureau of Public Health Nursing, and no state supervising nurse within the state department of health; a memorandum of policy of public health nursing service maintained by governmental and extra-governmental agencies, approved by the State Department of Health, the Central Division of the American Red Cross and the Illinois Tuberculosis Association.

As a result of these agreements, the conditions surrounding the activities of extra-governmental agencies which were all but chaotic, have now been brought into reasonable order and there is every reason to anticipate that the state health departments of the several states of the Nation will receive from these powerful extra-governmental agencies a satisfactory measure of assistance and support and that the state health departments will, on their part, be enabled to strengthen greatly these extra-governmental agencies, and that a more helpful spirit of cooperation may be created between the volunteer agencies themselves.

While, for the most part, the agreements entered into by organizations of national scope have dealt with general principles rather than with actual procedure, the agreement relative to public nursing service applicable to Illinois and entered into between the State Department of Health, the Central Division of the American Red Cross and the Illinois Tuberculosis Association, and based upon national agreements, is illustrative of the beneficial results to be expected from these national plans and programs.

Under the provisions of the Illinois nursing agreement, the State Department of Health is recognized as the central and coordinating head of nursing service, and the department is obliged to employ a supervising nurse who shall have jurisdiction over all publicly or privately employed public health or community nurses in the State. Associated with this State supervising nurse will be an assistant supervisor for the American Red Cross and an assistant supervisor for the Illinois Tuberculosis Association, the salaries of whom may be paid in whole or in part by the interested extra-governmental agencies. These three nurses will constitute a supervisory body dealing with nursing service throughout the State, the official actions of this body being subject to review, approval or disapproval by a standing committee consisting of an active representative of the State Department of Health, of the Central Division of the American Red Cross and of the Illinois Tuberculosis Association.

Under the provisions of this contract or memorandum of agreement no agency may establish nursing service in any community in which another organization already maintains nursing service, or has such service in contemplation, without conferring with and securing approval of the State Department of Health and other interested agencies. It is further agreed that the policy of any participating organization will be to support and encourage any existing nursing service, rather than to attempt to supplant or parallel it.

While this agreement is not yet in complete operation, owing to unavoidable delays and difficulties in completing the supervisory personnel, there has already come about a much closer understanding, particularly between the Illinois Tuberculosis Association and the American Red Cross in the matter of establishing nursing service.

For a period of over ten years the Illinois Tuberculosis Association has been the principal agency in Illinois engaged in establishing local nursing services, there being at this time about sixty such services in as many communities in the State. The American Red Cross, for a number of years, has maintained a town and country nursing service and with the termination of the war it was found that many communities had Red Cross funds which could be employed for the establishment of this popular and valuable form of health activity. On the other hand, a large number of communities throughout the State had been gradually

accumulating funds from the annual sale of Red Cross Christmas Seals, with the ultimate aim of employing nurses. With the growing appreciation of the value of public health nurses in all modern health work, and the stimulation to public nursing service given by our experience in the war and in the recent influenza-pneumonia epidemic, a condition arose which gave promise of becoming well nigh chaotic and of creating bitter competition and rivalry between the Red Cross Chapters and the tuberculosis associations of the several counties, towns and cities. Up to this time public nursing service has been subject only to the supervision maintained by the interested volunteer organization. The advantage of some form of State supervision maintained with a fair spirit of cooperation and with the assistance of the extra-governmental agencies appears obvious, theoretically, and is demonstrated to be more than satisfactory in actual application.

It is the profound conviction of the Director of the State Department of Health that a cooperative program, based upon the agreements of national associations entered into during the past year, will result in a much higher measure of efficiency throughout the State than has ever prevailed in the past. The governmental health organization cannot afford to ignore the influence and prestige and especially the interest and enthusiasm of extra-governmental organizations, and yet these extra-governmental organizations cannot accomplish their maximum of useful service unless their programs are intimately aligned with governmental health activities.

During the year just passed, bubonic plague appeared in a number of sea coast communities on the Gulf coast and on the Pacific coast. In California, the invasion of this disease appeared menacing since it was found that the disease was no longer confined to rats, but had extended to other rodents, causing it to be far more difficult to control.

The spread of bubonic plague, through invasion of rodents, is not limited geographically as was the spread of yellow fever, and consequently there was occasion for grave concern on the part of every state health authority lest bubonic plague should become one of the serious health problems of the Nation. It was quite within the range of possibility that infected rodents could be carried by steam boats or by rail from the Gulf coast, and the disease thereby be introduced into Illinois. The Director, in response to an invitation extended by the Surgeon General of the United States Public Health Service, joined a group of other state health authorities in cities on the Gulf coast, and conferred with Federal and state health authorities as to the approved means of the extermination of other rodents in case such a procedure became imperative.

Provisions have been made for a study of rats in Illinois River towns and particularly those which may be found in cargoes of steamers from the southern Mississippi River.

While unlimited mandatory power may be conferred upon the State Department of Health by the statutes, and while practically unlimited power is conferred upon the Department of Health by the Civil Administrative Code, it is recognized by State health authorities that for the attainment of the maximum of service, there must be a thoroughgoing cooperation on the part of the medical profession.

Some time ago there was created by the State Department of Health a State and county cooperating health service, whereby there was appointed in each county, on the nomination of the county medical society, a thoroughly competent physician who should serve as a representative of the State Department of Health, and who in time of emergency should be engaged in active service on a *per diem* basis. It was a duty of this county representative of the State Department of Health not only to keep the department advised of any important health or sanitary conditions developing in his territory, but also to keep his local medical society fully informed as to any new steps taken in the development of sanitary science.

This service has proved of very great value and is capable of much more extensive development. Representatives in the several counties have been designated assistant collaborating epidemiologists, bringing them in close touch not only with the State health service, but with the activities of the United States Public Health Service, and utilizing the franking privileges of the Federal Government at a considerable saving of State funds.

As one of the progressive movements in modern preventive medicine, the State Department of Health has encouraged the establishment of clinics in various parts of the State, always in cooperation with the local medical profession, and designed primarily for diagnostic purposes. This service for the most part has had the warm support of the members of the medical profession and portable or permanent clinics for crippled children, for victims of venereal diseases and of tuberculosis have been introduced in all parts of the State.

The Executive Division has also been deeply interested in the promotion of child welfare activities throughout Illinois. The annual Better Babies Conference held in connection with the Illinois State Fair, has grown phenomenally and has extended its influence to all parts of the State, causing the establishment of well babies' conferences, baby health centers and systematic physical examination of babies and young children. It is doubtful if there is any single feature in the activities of the State Department of Health productive of a more direct and higher degree of benefit than these child welfare activities, appealing as they do to the public sentiment and sympathy. It is recognized as a fundamental fact in all public health work that the control of the living conditions of children must be the forerunner of all constructive health administration.

It is believed that within the past year unprejudiced representatives of health organizations of national scope have come to recognize a greatly improved health service within the State of Illinois. With the rapid changes brought about through our lessons learned during the war, many activities have been initiated which in the past would have been regarded as rather extreme and revolutionary. The new importance which public health came to assume, however, during the war, and the policy of leadership without dictation, which has been adopted consistently by the department, have had much to do with influencing the acceptance of these new programs and with gaining for them the thoroughgoing co-operation and support of the general public and of the medical profession.

DIVISION OF COMMUNICABLE DISEASES

JOHN J. MCSHANE, M. D., DR. P. H., *Chief*

The Division of Communicable Diseases, although handicapped to some extent during the past year by numerous changes in both the field and office forces, has accomplished a great deal in the matter of securing reports of communicable diseases throughout the State, and in the control of epidemics.

The records of the division show that during the fiscal year ending June 30, 1920, there were reported 340,514 cases of communicable diseases, as compared with 353,299 cases for the year ending June 30, 1919. Of these 340,514 cases, 170,954 were influenza, the number of influenza cases reported being 33,188 less than for the previous year.

INFLUENZA

During the past two years, two very destructive influenza epidemics have visited this country, the first in the fall of 1918 and the second during the winter of 1919-1920.

Many of our sanitarians and epidemiologists in America state that there was a mild outbreak of influenza during the spring and winter months of 1918, increasing in virulence in August of the same year. From the history of influenza in the camps, some 40,000 cases were reported in 1917 and statistics gathered from these camps show that there was a high incidence of pneumonia late in the winter of that year and the spring months of the following year. It has been disputed as to whether the first cases appearing around Boston the first week in September, 1918, were imported from abroad or whether influenza, already in existence in this country, had merely taken on an acquired virulence. Estimates place the number of deaths from influenza and pneumonia in 1918 throughout the world from six to ten millions, by far a greater total of lives lost through the epidemic than the entire loss of all the belligerent forces during the war. It is quite striking that the first reports of influenza occurring in Illinois should have come from the Great Lakes Naval Training Station in both epidemics. Shortly after receiving reports of the outbreak of influenza at Great Lakes—about January 12, 1920—reports of the appearance of the disease began to come into the State Department of Public Health from other cities and villages along the north shore and from a number of points in northern Illinois, especially from Camp Grant and Rockford.

Like the epidemic in 1918, the disease spread southward over the State, following the large trunk lines of travel, the southern portion of

the State being the last to be affected. One notable feature of the recent epidemic was that the cases of influenza, as a general rule, were not so severe and there were far less complications than in the previous epidemic, although, from reports received by the department, there were nearly as many cases as during the epidemic of 1918. Statistics, which will be given later on, showing the morbidity and mortality in a given number of cities in the State, will prove the foregoing statement. That a large number of mild cases were called "grippe" and not reported is probably accountable for the decrease in the number of reported cases. Had all cases of "grippe" been reported, in accordance with the rules of the State Department of Health, there would, no doubt, have been many more cases recorded.

In Chicago, for a period of seven weeks—from September 22 to November 9, 1918—there were 37,186 cases of influenza and 17,080 cases of pneumonia reported. For the seven-week period, from January 10 to February 28, 1920, there were reported 28,738 cases of influenza with 8,051 cases of pneumonia. For the seven-week period in 1918, there were 7,943 deaths from pneumonia and influenza, while, for the same period during 1920, there were 3,602 deaths.

TABLE I—CITY OF CHICAGO—AN ANALYSIS OF MORTALITY AND MORBIDITY RECORDS FOR TWO INFLUENZA EPIDEMIC PERIODS—SEPTEMBER 22 TO NOVEMBER 9, 1918 AND JANUARY 10 TO FEBRUARY 28, 1920.

	Two epidemic periods —7 weeks each.	
	Sept 22— Nov. 9, 1918.	Jan. 10— Feb. 28, 1920.
MORTALITY DATA.		
Influenza deaths reported.....	5,044	1,800
Pneumonia deaths reported.....	2,899	1,802
Total influenza and pneumonia deaths.....	7,943	3,602
Normal pneumonia and influenza deaths for period.....	380	978
Excess pneumonia and influenza deaths above normal.....	7,563	2,624
Per cent excess pneumonia and influenza deaths above normal.....	1,980. %	269. %
Death rate, influenza-pneumonia for the epidemic period per 100,000 of population.....	305.9	137.4
Normal death rate, influenza-pneumonia, for epidemic period.....	14.5	37.3
Per cent excess of 1918 epidemic death rate, influenza-pneumonia, over that of 1920 period.....	122.6%	-----
Deaths, per 100 reported cases.....	14.5	9.8
All causes—deaths from—		
Total, all causes, epidemic period.....	12,787	8,765
Normal, all causes, for this period.....	4,365	5,647
Excess deaths, all causes, epidemic period.....	8,422	3,118
Per cent excess deaths from all causes.....	192.9%	55.2%
MORBIDITY DATA.		
Influenza cases reported.....	37,186	28,738
Pneumonia cases reported.....	17,080	8,051
Ratio reported pneumonia cases to reported influenza cases.....	45.9%	28.0%
Influenza and pneumonia cases reported per 100,000 of population.....	2,098	1,403
Per cent excess reported cases, 1918.....	48.7%	-----

The cities shown in Table I have an aggregate population of 3,328,622, or approximately one-half the population of the entire State. The influenza mortality in these cities during the recent epidemic totalled 4,653, or 136.8 for each 100,000 of the aggregate population. Assuming that a similar death rate prevailed throughout the State, the mortality for the seven weeks of the recent epidemic would reach a total of approximately 8,600. In 1918, the mortality was about 18,000 for the same period of time, showing the death rate for the 1920 epidemic to be about one-half that of the epidemic in 1918. The average influenza mortality rate for the nineteen cities listed was 130.5. The cities listed in Tables II and III have an excessively high death rate. These tables also give the influenza-pneumonia case reports and ratio of deaths to reports, the cities being rated and listed in the order of the highest ratio. Analyzing these reports, one concludes the high ratio of deaths to cases in the cities of Springfield, Aurora and Moline must be attributed to one or more of three causes, viz: (a) greater laxity of reporting cases, (b) greater severity of infection, (c) less intelligent handling of the cases. Doubtless the first is the real cause.

TABLE II—MORTALITY RECORDS—PRINCIPAL ILLINOIS CITIES—INFLUENZA EPIDEMIC PERIOD, JANUARY 10 TO FEBRUARY 28, 1920—DEATH RATES PER 100,000 OF POPULATION—CITIES ARRANGED IN ORDER OF HIGHEST DEATH RATES FROM ALL CAUSES.

Cities.	Deaths reported Jan. 10-Feb. 28, 1920.				Death rates per 100,000 of population.			Per cent deaths due to in- fluenza and pneumonia.
	All causes.	Influenza.	Pneumonia.	Total influenza and pneumonia.	All causes.	Influenza and pneumonia.	Rank in high influenza and pneumonia rate.	
Aurora.....	185	8	76	79	518.2	221.5	1	42.7
Oak Park.....	121	3	41	44	409.3	148.8	6	36.4
Galesburg.....	100	3	38	41	397.5	162.9	3	41.0
Evanston.....	114	-----	-----	41	377.7	135.8	11	35.9
Decatur.....	167	18	58	76	377.3	171.7	2	45.5
Peoria.....	265	6	112	118	367.1	163.4	4	44.5
Springfield.....	222	-----	-----	80	342.2	123.3	13	36.0
Moline.....	99	2	31	33	341.7	113.8	15	33.3
LaSalle.....	84	34	4	38	336.0	152.0	5	45.2
Oglesby.....								
Peru.....								
Chicago.....	8,765	1,800	1,802	3,602	334.3	137.4	10	41.4
Bloomington.....	99	6	38	44	333.8	148.3	7	44.4
Danville.....	120	10	35	45	305.9	137.6	9	37.5
Quincy.....	112	8	31	39	303.7	105.8	17	34.8
East St. Louis.....	227	28	48	76	302.6	101.3	18	33.5
Rock Island.....	97	1	30	31	297.9	95.2	19	30.9
Rockford.....	219	17	94	111	292.0	148.0	8	50.7
Alton.....	86	29	11	40	286.3	133.2	12	46.5
Bellefonte.....	60	-----	-----	20	283.5	94.5	20	33.3
Waukegan.....	60	9	17	26	278.6	118.6	14	43.3
Elgin.....	78	5	27	32	268.0	109.9	16	41.0
Joliet.....	61	7	30	37	155.0	94.0	21	60.6
For the 21 cities.....	11,341	-----	-----	4,653	333.5	136.8	-----	41.0

TABLE III—MORBIDITY RECORDS—PRINCIPAL ILLINOIS CITIES—FOR THE INFLUENZA EPIDEMIC PERIOD JANUARY 10—FEBRUARY 28, 1920—CITIES ARRANGED IN ORDER OF HIGHEST PROPORTION OF DEATHS TO REPORTED CASES.

Cities.	Population.	Cases reported.		Deaths. Influenza and pneumonia per 1,000 of population.	Cases. Influenza and pneumonia per 1,000 of population.	Approximate date of onset of outbreak.
		Influenza and LaGrippe.	Pneumonia (all forms).			
Springfield.....	64,877	236	26	30.6	4.04	Jan. 15
Aurora.....	35,681	249	38	23.5	9.44	Jan. 14
Galesburg.....	25,155	252	24	14.9	10.97	Jan. 19
Peoria.....	72,184	774	94	13.6	12.02	Jan. 21
Belleville.....	21,161	165	7	11.5	8.13	Jan. 22
Moline.....	28,976	268	24	11.3	13.53	Jan. 21
Bloomington.....	29,663	422	-----	10.4	14.23	Jan. 15
Joliet.....	39,353	210	156	10.1	9.30	Jan. 5
Chicago.....	2,621,419	28,738	8,051	9.8	14.03	Jan. 13
Waukegan.....	21,925	271	19	8.9	13.22	
Oak Park.....	29,562	439	68	8.7	17.14	Jan. 11
Elgin.....	29,100	317	55	8.6	12.78	Jan. 7
Quincy.....	36,883	487	34	7.5	14.13	Jan. 26
East St. Louis.....	75,000	1,074	7	7.0	14.41	Jan. 19
Evanston.....	30,178	571	19	6.9	19.55	Jan. 7
Rock Island.....	32,561	487	85	5.4	17.56	Jan. 20
Decatur.....	44,261	1,371	60	5.3	32.3	Jan. 15
Danville.....	32,696	800	70	5.2	26.61	Jan. 20
LaSalle.....	25,000	733	52	4.8	31.40	Jan. 22
Oglesby.....						
Peru.....						
Alton.....	30,036	801	48	4.7	28.26	Jan. 12
Rockford.....	75,000	2,971	248	3.4	42.92	Jan. 15
For the 21 cities.....	3,400,671	41,636	9,235	9.1	14.9	

TABLE IV—CITY OF CHICAGO—TABULATION OF INFLUENZA BY AGES—JANUARY, 1920.

Age.	Male.	Female.	Unknown.	Total.
1.....	156	126	47	339
2.....	207	193	54	454
3.....	186	215	32	433
4.....	172	177	24	373
5.....	178	210	20	408
6.....	193	181	20	394
7.....	140	122	20	282
8.....	97	131	14	242
9.....	87	79	7	173
10.....	79	66	11	156
11.....	87	69	2	156
12.....	81	80	5	166
13.....	48	56	3	107
14.....	81	82	4	167
15.....	65	71	6	142
16.....	89	89	5	183
17.....	75	116	7	198
18.....	87	166	8	261
19.....	93	148	2	243
20.....	170	230	9	409
21-25.....	922	1,722	18	2,663
26-35.....	2,157	2,586	62	4,825
36-45.....	1,181	1,371	48	2,600
46-55.....	510	784	33	1,327
56-65.....	190	383	11	584
66-75.....	107	118	6	231
76-85.....	24	54	1	79
Over 85.....	6	14	-----	20
Unknown.....	1,928	2,126	-----	4,054
Total.....	9,396	11,765	499	21,660
Number of cases age and sex not given.....	-----	-----	-----	963
Grand total.....	-----	-----	-----	22,623

ABLE V—AGE AND SEX DISTRIBUTION—CASES OF INFLUENZA REPORTED IN CITY OF CHICAGO DURING JANUARY, 1920—DATA SUPPLIED BY THE COMMISSIONER OF HEALTH OF CHICAGO, DR. JOHN DILL ROBERTSON,

Ages.	Cases.	Per cent of total cases.
5 years and under.....	1,997	11.3
6-10 years.....	1,247	7.1
11-15 years.....	740	4.2
16-20 years.....	1,294	7.4
21-25 years.....	2,662	15.1
26-35 years.....	4,825	27.4
36-45 years.....	2,600	14.8
46-55 years.....	1,327	7.5
56-65 years.....	584	3.3
66-75 years.....	231	1.3
76-85 years.....	79	0.5
Over 85 years.....	20	0.1
Total cases in which age given.....	17,606	100.

Sex.	Cases.	Per cent.
Males.....	9,396	44.4
Females.....	11,765	55.6
Total in which sex given.....	21,161	100.

Reports of cases were much more complete in the smaller cities and rural sections than in the cities having more than 20,000 population. Nineteen cities having approximately one-half the population of the State reported only one-third of the total number of cases. The city of Aurora, in which only 249 cases were reported, had at a most conservative estimate more than 4,000 cases of the disease. A similar lack of attention to reporting prevailed in the city of Springfield.

CAUSE OF DISEASE

The etiology of influenza is still in doubt. It is impossible to say whether or not the Pfeiffer's bacillus is the cause of this disease; nevertheless many workers still hold that, from studies recently made, Pfeiffer's bacillus must be considered the most likely cause of influenza. Claims have been made by the British that the disease is due to a filterable virus, and extensive experimentation in this direction is in progress in a number of laboratories. Experiments by Parker and by Huntoon and Hannum have demonstrated the fact that the production of a toxin by this bacillus would explain the profound systemic manifestations that accompany a relatively mild local infection.

Early in the epidemic, many bacteriological laboratories produced vaccines for the prevention of influenza. The New York City Health Department prepared and distributed a vaccine prepared from Pfeiffer's bacillus. Most of those produced by other laboratories were mixed vaccines containing the bacillus Pfeiffer, streptococci, staphylococci and a number of strains of pneumococci. Studies made under control con-

ditions have proved that the vaccines did not prevent influenza, as those who had received the inoculations suffered from the disease in about the same proportion as the unvaccinated. It has been claimed by some that, to a certain extent, vaccines prevented complications. During the epidemic of 1920, a number of studies were made by different sanitarians and bacteriologists relative to the efficacy of a mixed vaccine and about the same results were obtained as in the previous epidemic.

In the prevention of epidemics of influenza, Dr. Flexner points out that influenza is endemic in certain parts of eastern Europe. He fixes the habitat on the border between eastern Russia and Turkestan. He says, "There are excellent reasons for regarding the home of influenza as eastern Europe. Many recorded epidemics have been shown more or less clearly to emanate from that area while epidemics of recent history have been traced there with a high degree of conclusiveness." Dr. Flexner thinks the ideal method of combatting this disease would be to eradicate it in the localities where it is endemic; but, to quote Dr. John S. Billings: "Such a method of attack, while logical, is not at the present time practical because of the expense involved and the low standard of national intelligence and lack of appreciation of public health on the part of the countries where the disease is dormant."

Since suppression of the disease at its source, as above described, is at present impracticable, its control will have to be met by other means.

Influenza is a mild disease in its uncomplicated form, but fatal when accompanied by complications and should suspicious cases appear in a group the patients should be immediately isolated and put to bed. For influenza, like measles, is rarely, if ever, the immediate cause of death but these virus infections pave the way for secondary invaders like pneumococci; streptococci, etc.

Rackemann and Brock draw attention to the following resemblances between influenza and measles in order to stimulate further study of their etiology. Both diseases occur in epidemic form and are very highly contagious. Their clinical course is similar; both diseases having a sudden onset, with fever of high degree and short duration. In the acute stages the upper respiratory symptoms with coryza, lacrymation and an aggravating, unproductive cough are alike. The occasional faint evanescent rash in influenza is often suggestive of measles. Both diseases have a low leucocyte count. The greatest similarity, however, lies in the predisposition of patients to develop secondary infections of the lungs and pleura.

Because of the communicability of the disease and present-day modes of travel, its control in large cities, due to the overcrowded conditions of the street railways, elevators and many other places where people congregate, is a difficult problem. On account of the mildness of the cases, the number of carriers, and persons suffering from "colds" that may be cases of influenza, the early isolation of the cases is one of

the most known effective measures in preventing the spread of the disease and the application of this measure depends upon the individual himself. Therefore, one of the most important measures of health departments is to instruct the people or better inform them as to how they can help in preventing the spread of influenza. There is no doubt that if every person in this country—both child and adult—could be educated to the importance of keeping their hands away from the nose and mouth and of washing the hands frequently, always protecting the mouth with the handkerchief when sneezing, or coughing, a great step forward would be taken in the prevention of respiratory diseases.

The provision of hospital, medical and nursing facilities and various other sociological activities connected with the management of the community during the epidemic of influenza, are measures of the utmost importance as having a bearing, not only upon the extension of the disease, but upon the total death rate, the comfort of the victims and the subsequent influences upon related health matters, such as prevalence of tuberculosis. It is of the utmost importance that communities so organize themselves that adequate hospital care can be provided for cases of influenza and complicating pneumonia. All cases of pneumonia following influenza should be isolated from the lobular type of pneumonia caused by several varieties of the organism because either or both patients might contract a double infection. A number of the smaller cities in the State are to be commended on the way they handled the influenza situation, especially from the standpoint of nursing and hospitalization.

The most important factor then in the control of influenza is the early detection and isolation of the cases. This can only be brought about by educating the public in the elementary facts concerning influenza and arousing the people generally to practice hygienic measures which will protect them from the disease.

Preventive measures against influenza require the intelligent co-operation of every individual in the community. The attitude of each person must be to report sickness, rather than to conceal it; to respect suspicious signs of sickness, rather than to ignore them; to impose some degree of self-isolation, rather than mingle closely with others; and to observe personal hygiene, rather than assert an excessive degree of personal liberty and independence. Prevention at present depends upon individual initiative rather than public measures.

TYPHOID FEVER

During the fiscal year, there were reported 2,293 cases of typhoid fever as compared with 1,193 for the previous year, and 963 for the year 1917-1918. During the past year, there were a number of outbreaks, 67 cases being reported from Coles County, of which Mattoon had 54. Kane County reported 56, of which Aurora had 6, Elgin 10;

Franklin County reported 105; Knox County 58, Galesburg reporting 46; Lake County 79; Morgan County 61, of which 37 were reported from Jacksonville; Saline County 62; Will County 116, of which Joliet reported 72; Williamson County 60; Madison County 50. The State institutions reported 15 cases in all. Cook County reported 343 cases, 305 of these being in Chicago, that city having the lowest typhoid fever death rate in its history.

MALARIA

The reporting of malaria for the year 1919-1920 was most gratifying, a total of 2,011 being received as compared with 199 the previous year. The ten counties reporting the largest number of cases are: Clinton, 201; Bureau, 91; Franklin, 147; St. Clair, 86; McLean, 84; Morgan, 78; Saline, 65; Pike, 64; Henry, 57; Marshall, 48.

SMALLPOX

During the fiscal year ending June 30, 1920, there were reported to the Division of Communicable Diseases, 7,807 cases of smallpox, showing a slight decrease from the year 1918, when 8,116 cases were reported. In 1917, there were 5,670 reported cases. The continued prevalence of this disease is a sad commentary on the intelligence of the people, smallpox being an entirely unnecessary scourge, as its prevention depends only on a simple and harmless vaccination which costs little to apply.

While there have been no very widespread or severe epidemics, there have been a number of invasions by the disease, entailing human suffering, loss of life and disturbance of business and social affairs which could readily have been avoided. Cook County, representing almost one-half of the population of the State, and where vaccination is generally employed, reports only 164 cases of smallpox. In Hamilton County, 589 cases of smallpox were reported; in Franklin County, 500 cases; in Rock Island County, 406 cases; and in Greene County 469 cases.

MEASLES

Measles, although considered one of the "minor" diseases, is the cause of twice as many deaths of children as scarlet fever. Not until the time comes when parents feel their responsibility in protecting their children from these so-called "minor" diseases, can we expect a lowering of the morbidity and mortality rates for measles.

During the fiscal year there were 33,535 cases of measles reported, as against 29,191 cases in 1918, and 45,945 in 1917. The number of measles cases increase during the fall and assumes epidemic proportions in the winter and spring months.

WHOOPING COUGH

Whooping cough, another of the so-called minor diseases of childhood, may well be considered one of the major diseases when one con-

siders the toll it levies. During the year 1919, this disease caused three times the mortality due to scarlet fever, and almost fifty times as many deaths as were caused by smallpox.

During the fiscal year, 13,275 cases of whooping cough were reported, being nearly twice the number for 1919, when 7,214 cases were reported.

SCARLET FEVER

During the fiscal year, there were reported to the Division of Communicable Diseases, 16,810 cases of scarlet fever, four times the number of cases reported during the past year.

During the past year, there were outbreaks of scarlet fever in epidemic proportions at Quincy, Chicago, Evanston, Oak Park, Aurora, Elgin, Alton, Bloomington, Peoria, East St. Louis, Joliet and Rockford.

DIPHTHERIA

In spite of the fact that the State has placed at the disposal of all persons, through the distribution of diphtheria antitoxin, means of prevention, immunization and cure from diphtheria, it is to be noted that during the fiscal year ending June 30, 1919, there were 12,876 cases of diphtheria reported. Although there is a general decrease of this disease, there is small excuse for its continued prevalence. Laboratory methods of diagnosis have been developed along the simplest possible lines and such diagnoses are available not only at the central laboratory at Springfield, but in the several branch laboratories throughout the State.

EPIDEMIC MENINGITIS

During the fiscal year ending June 30, there were reported to the Division of Communicable Diseases, 302 cases of epidemic meningitis, as against 591 for 1918 and 247 for 1917.

Chicago reported 102 cases, Alton 33 cases and Clinton County 14.

POLIOMYELITIS

During the fiscal year there was a decided decrease in the number of poliomyelitis cases, there being 364 cases as compared with 883 in 1918, and 934 in 1917. Of the 364 cases, the largest numbers were reported from Chicago, Mattoon, Fulton County, Bureau County, LaSalle County, Macoupin County and Warren County.

PNEUMONIA

During the past few years there has been a general observance of the rules and regulations of the department relative to the reporting of pneumonia. This is probably due to the fact that pneumonia so often complicated influenza. For the past fiscal year there were 18,270 cases of pneumonia reported, as compared with 20,097 during the previous year.

THE COST OF COMMUNICABLE DISEASES

In the first and second annual reports of the State Department of Public Health, there were published tables showing the financial loss from preventable disease and it is believed that the facts contained in these tables have gone further toward securing public and official attention to disease prevention than any other argument or evidence ever offered. The data afforded a specific way of impressing upon city and county officials the actual tremendous cash penalty their communities were bearing annually on account of the failure to provide adequate means of disease prevention. A similar table for the fiscal year ending June 30, 1920, has been included in this report, (Table XI).

In computing the cost of communicable diseases, the following definite factors were taken into consideration and in every instance it is believed that the figures employed result in an under statement rather than an exaggeration of the facts; cost of human life, computed at \$3,000 for the adult and \$500 for the child; cost of burial for the adult, \$100 and \$50 for the child; estimate of the number of cases of illness for each death from disease prepared upon recognized epidemiological standards; the cost for medicine and nursing for the sick and the value of the loss of time from productive or gainful occupation. In these compilations, each disease was given careful and separate consideration and it is believed that the resultant figures state the case as clearly and accurately as it can be stated.

According to these figures, the total cost of communicable disease for the fiscal year, amounted to \$150,070,738. In this tremendous cost to the people of the State, tuberculosis once again takes first place. During the previous fiscal year pneumonia, which had prevailed to an enormous extent during the influenza epidemic, took precedence over the "great white plague." The cost of tuberculosis during the past fiscal year was \$90,200,500, pneumonia occupying second place with a cost of \$28,486,953, and influenza third place with a cost of \$18,895,551. The annual cost to the people of the State for the other communicable diseases was as follows: typhoid fever \$2,066,110; malaria \$2,703,153; smallpox \$809,119; measles \$591,701; scarlet fever \$770,334; whooping cough \$453,490; diphtheria \$945,069; rabies \$10,050; syphilis \$3,539,103; gonococcus infection \$380,483; epidemic meningitis, \$60,620; poliomyelitis \$81,925 and septic sore throat \$301,500.

DISTRIBUTION OF PREVENTIVE AND CURATIVE AGENCIES

The Division of Biological and Research Laboratories, created by the last legislature, has found it impossible to function, owing to inability to obtain quarters. The distribution of biological products, therefore, has been taken care of by the Division of Communicable Diseases, as formerly, the products being purchased by contract from reputable commercial houses.

Recognizing the importance and great public economy of the free distribution of diphtheria antitoxin, the State Department of Public Health, during the past year, as in previous years, has distributed through several hundred agencies, both preventive and curative antitoxin; the Schick test to determine immunity to diphtheria; typhoid and para-typhoid vaccine; nitrate of silver solution for the prevention of blindness through infection of the eyes at birth, and smallpox vaccine for use in State institutions or in unusual emergencies.

During the fiscal year just passed, the following quantities of diphtheria antitoxin were distributed:

14,166	1,000 unit packages, chiefly for preventive use.
4,859	3,000 unit packages, for individual curative use.
9,717	5,000 unit packages, for individual curative use.
8,995	10,000 unit packages, for individual curative use.
839	10,000 unit packages, for institutional use.
730	20,000 unit packages, for institutional use.

39,306 packages or 190,263,000 units.

Of 17,218 cases of diphtheria in Illinois during the fiscal year ending June 30, 1920, and part of the preceding year on which reports have been made to this office, 1,075 or 6.24 per cent died. The death rate in cases in which State antitoxin was used has gradually but slowly decreased during the last ten years. Such decrease, approximately one per cent, may safely be ascribed to increased initial doses and to early administration of the serum.

These figures are probably underestimated, as, in a considerable number of reports, the physicians administering the antitoxin failed to indicate the type of the disease. Of the 1,075 fatal cases, 482 were reported as of the laryngeal type. This probably is also underestimated. In 468 cases resulting fatally, the day of the membrane was not stated in the report on the antitoxin administered; 105 were reported as occurring on the first day of the membrane; 180 as on the second day; 114 on the third day; 75 on the fourth; 64 on the fifth; 39 on the sixth; 19 on the seventh; 2 on the eighth; 3 on the ninth; 4 on the tenth; and 1 on the fourteenth.

Complications in fatal cases were reported as follows: adenitis in 7 cases; arthritis in 1 case; broncho-pneumonia in 21; burns in 1; cerebro-spinal meningitis in 4; embolism in 1; endocarditis in 3; gastro enteritis in 6; hemophilia in 2; influenza in 8; laryngeal paralysis in 7; measles in 14; myocarditis in 23; nasal hemorrhage in 5; nephritis in 18; neuritis in 1; oedema of glottis in 3; oedema of larynx in 2; oedema of lungs in 1; paralysis of lower limbs in 1; paralysis of palate in 3; parotitis in 1; peritonitis in 1; pharyngeal paralysis in 4; pneumonia in 32; scarlet fever in 58; tuberculosis of lungs in 1; uraemic convulsions in 1; Vincent's angina in 1; and whooping cough in 1. These statistics are taken from the clinical reports of the physicians by whom the antitoxin was administered. It is evident that in many instances the complications were not indicated in the reports.

The ages of the fatal cases were as follows: Not stated, 10 cases; 1 year old, 110; 2 years, 135; 3 years, 158; 4 years, 125; 5 years, 110; 6 years, 90; 7 years, 75; 8 years, 48; 9 years, 37; 10 years, 45; 11 years, 18; 13 years, 10; 14 years, 7; 15 years, 5; 16 years, 5; 17 years, 13; 18 years, 10; 19 years, 5; 20 years, 4; 21 years, 5; 22 years, 2; 23 years, 3; 24 years, 3; 25 years, 4; 26 years, 3; 27 years, 2; 28 years, 3; 29 years, 3; 30 years, 3; 31 years, 2; 33 years, 3; 35 years, 2; 44 years, 1; 56 years, 1.

The ages of the non-fatal cases were as follows: Not stated, 280 cases; 1 year old, 430; 2 years, 847; 3 years, 1,029; 4 years, 1,218; 5 years, 1,116; 6 years, 1,204; 7 years, 1,134; 8 years, 1,068; 9 years, 831; 10 years, 745; 11 years, 672; 12 years, 534; 13 years, 390; 14 years, 357; 15 years, 245; 16 years, 264; 17 years, 203; 18 years, 210; 19 years, 200; 20 years, 189; 21 years, 192; 22 years, 185; 23 years, 194; 24 years, 163; 25 years, 201; 26 years, 198; 27 years, 138; 28 years, 170; 29 years, 117; 30 years, 190; 31 years, 72; 32 years, 103; 33 years, 70; 34 years, 77; 35 years, 138; 36 years, 63; 37 years, 72; 38 years, 65; 39 years, 42; 40 years, 68; 41 years, 46; 42 years, 54; 43 years, 25; 44 years, 19; 45 years, 33; 46 years, 26; 47 years, 28; 48 years, 33; 49 years, 16; 50 years, 35; 51 years, 12; 52 years, 16; 53 years, 21; 54 years, 14; 55 years, 11; 56 years, 10; 57 years, 9; 58 years, 8; 59 years, 4; 60 years, 9; 61 years, 2; 62 years, 7; 63 years, 2; 64 years, 1; 65 years, 4; 66 years, 3; 67 years, 3; 69 years, 2; 70 years, 2; 75 years, 1; 79 years, 2; 82 years, 1.

Complications in non-fatal cases were reported as follows: abscess of cervical glands in 5 cases; adenitis in 29; appendicitis in 2; arthritis in 4; bronchopneumonia in 14; cerebrospinal meningitis in 1; chicken pox in 9; confinement in 1; endocarditis in 2; erythema nodosum in 1; erysipelas in 2; facial paralysis in 1; glandular tuberculosis in 1; influenza in 21; laryngeal paralysis in 7; measles in 52; mumps in 3; myocarditis in 16; nephritis in 28; oedema of glottis in 1; oedema of lungs in 5; otitis media in 31; paralysis of glottis in 1; paralysis of lower limbs in 1; paralysis of ocular muscles in 1; paralysis of palate in 12; pericarditis in 1; peritonsillar abscess in 14; pharyngeal paralysis in 17; pneumonia in 33; post diphtheritis paralysis in 12; scarlet fever in 478; typhoid fever in 1; uremia in 1; Vincent's angina in 2; and whooping cough in 7.

TABLE VI—SHOWING THE REPORTS OF FIFTEEN PRINCIPAL COMMUNICABLE DISEASES FOR THE ENTIRE STATE OF ILLINOIS BY MONTHS FOR THE YEAR JULY 1, 1918, TO JUNE 30, 1919.

Diseases.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Total.
Diphtheria.....	487	362	604	990	703	705	731	769	665	635	668	470	7,789
Influenza.....	-----	-----	541	145,067	40,806	43,304	28,354	13,369	10,486	2,029	166	20	284,142
Malaria.....	2	1	3	-----	-----	-----	18	20	55	97	2	1	199
Measles.....	273	121	56	141	67	171	711	1,072	2,453	5,754	5,204	3,142	19,165
Meningitis epidemic.....	26	14	16	8	4	12	20	16	14	11	18	12	171
Poliomyelitis.....	43	73	79	18	2	2	9	3	7	4	13	12	265
Scarlet fever.....	150	101	231	189	201	208	440	588	662	586	495	289	4,140
Whooping cough.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	7,214
Pneumonia.....	142	68	255	10,875	2,274	2,596	1,160	820	890	600	562	355	20,097
Smallpox.....	103	73	26	42	36	114	322	284	465	567	554	442	3,028
Tuberculosis.....	1,563	1,182	973	891	1,208	637	1,390	1,397	1,436	1,923	1,586	1,723	15,909
Typhoid fever.....	212	241	286	102	24	86	33	33	39	47	32	64	1,199
Veneral diseases.....	-----	6	-----	-----	126	-----	-----	-----	-----	-----	-----	-----	132
Chancroid.....	51	36	32	24	29	29	32	51	28	47	42	44	445
Gonorrhea.....	643	598	803	524	387	347	387	544	533	584	620	739	6,709
Syphilis.....	359	257	199	172	220	131	159	274	253	272	254	317	2,869

TABLE VII—SHOWING THE REPORTS OF SEVENTEEN PRINCIPAL COMMUNICABLE DISEASES FOR THE ENTIRE STATE OF ILLINOIS BY MONTHS FOR THE YEAR JULY 1, 1919 TO JUNE 30, 1920.

Diseases.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Total.
Typhoid fever.....	265	294	306	346	251	183	124	80	88	115	103	138	2,293
Malaria.....	417	294	265	170	97	63	59	112	84	114	142	194	2,011
Smallpox.....	183	135	232	260	648	779	776	842	748	1,063	1,232	909	7,907
Measles.....	1,110	255	118	342	706	1,727	4,366	4,610	4,982	5,343	5,542	4,434	33,535
Scarlet fever.....	211	188	579	1,295	1,597	1,895	2,449	2,235	2,335	1,708	1,456	862	16,810
Whooping cough.....	618	802	723	554	818	1,206	1,143	1,222	2,061	1,204	1,460	1,464	13,275
Diphtheria.....	541	528	992	1,898	2,050	1,505	1,139	938	1,058	778	793	656	12,876
Influenza.....	272	384	562	723	549	711	80,020	80,946	5,731	741	159	156	170,964
Rabies.....	-----	1	3	3	-----	-----	-----	1	3	-----	-----	3	14
Tuberculosis (all kinds)....	1,720	1,447	1,627	1,719	1,693	1,580	1,433	1,164	1,820	1,320	1,295	1,468	18,286
Meningitis epidemic.....	25	20	11	33	31	21	31	33	28	12	14	13	272
Poliomyelitis.....	77	101	70	28	29	17	3	5	9	7	6	12	364
Pneumonia.....	308	185	233	451	601	1,275	7,012	4,049	1,655	1,066	936	485	18,276
Septic sore throat.....	80	81	119	177	224	210	180	278	206	114	57	63	1,789
Syphilis.....	438	563	775	1,137	1,390	1,349	1,206	724	1,503	1,297	1,622	1,218	13,222
Gonorrhea.....	954	1,075	1,083	2,074	2,324	1,599	1,413	966	1,350	1,435	1,728	1,669	17,670
Chancroid.....	43	54	37	121	133	78	94	70	64	71	71	148	984

TABLE VIII—SHOWING THE REPORTS OF FIFTEEN PRINCIPAL COMMUNICABLE DISEASES FOR THE CITY OF CHICAGO BY MONTHS FOR THE FISCAL YEAR JULY 1, 1918, TO JUNE 30, 1919—MORBIDITY SUMMARY.

Diseases.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Total.
Diphtheria.....	324	264	392	607	502	558	701	541	553	460	527	413	5,842
Influenza.....			437	34,792	2,490	9,063	4,636	2,075	1,347	430	421	17	55,708
Malaria.....													
Measles.....	192	78	51	101	61	181	347	580	1,609	3,873	4,285	2,846	14,304
Meningitis epidemic.....	18	14	12	7	5		14	10	11	7	17	6	121
Poliomyelitis.....	17	28	15	5		5	8	2	5	4	11	4	104
Scarlet fever....	92	62	163	104	106	163	235	268	298	238	283	185	2,197
Pneumonia.....	68	61	261	11,290		450	825	1,428	1,302	1,114	540	330	17,669
Smallpox.....	6	7	10	1		13	21	5	24	7	13	5	112
Tuberculosis....	1,492	1,203	347	898	763	871	1,328	4,263	1,274	1,713	1,467	1,683	17,302
Typhoid fever....	29	59	53	20	7	10	10	6	12	17	16	19	258
Veneral diseases.....													
Chancroid.....	35	26	25	21	25	29	25	45	30	24	53	37	375
Gonorrhea.....	455	423	447	294	282	287	324	422	460	480	390	584	4,848
Syphilis.....	285	304	160	158	189	146	143	249	227	242	340	311	2,754

TABLE IX—SHOWING THE REPORTS OF SEVENTEEN PRINCIPAL COMMUNICABLE DISEASES FOR THE CITY OF CHICAGO BY MONTHS FOR THE FISCAL YEAR JULY 1, 1919, TO JUNE 30, 1920—MORBIDITY SUMMARY.

Diseases.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Total.
Typhoid fever....	31	36	33	78	35	21	14	4	12	13	14	14	305
Malaria.....													
Smallpox.....	2	19	5	5	5	8	2	18	26	7	17	6	120
Measles.....	753	153	101	270	536	757	977	941	1,271	1,439	1,441	1,269	9,908
Scarlet fever....	99	97	304	656	893	1,101	1,379	1,276	1,450	941	756	455	8,407
Whooping cough.....	607	484	506	292	380	696	475	400	471	424	420	395	5,550
Diphtheria.....	350	282	514	948	1,112	779	601	542	725	539	545	474	7,411
Influenza.....	16	26	164	218	178	212	22,623	6,606	997	135	58	21	31,254
Rabies.....			1	1									2
Tuberculosis (all kinds)....	1,431	1,065	1,201	1,274	1,199	1,084	1,101	902	1,366	1,020	885	1,010	13,538
Meningitis epidemic.....	10	7	7	15	13	1	12	10	15	5	4	3	102
Poliomyelitis.....	27	42	18	3	2	2		3	3	1	1	3	105
Pneumonia.....	277	167	191	378	483	978	4,687	839	1,159	825	739	413	11,136
Septic sore throat.....	1	2	3	14	32	39	32	10	15	10	13	10	181
Syphilis.....	353	658	719	743	548	524	497	366	454	419	460	408	6,149
Gonorrhea.....	754	1,151	940	964	1,042	802	808	842	752	879	794	695	10,423
Chancroid.....	36	43	42	52	50	31	108	80	65	18	15	34	574

TABLE X—SHOWING THE PREVALENCE OF SEVENTEEN PRINCIPAL COMMUNICABLE DISEASES BY COUNTIES AND PRINCIPAL MUNICIPALITIES FOR THE FISCAL Y AR JULY 1, 1919, TO JUNE 30, 1920.

County.	Typhoid.	Malaria.	Smallpox.	Measles.	Scarlet fever.	Whooping cough.	Diphtheria.	Influenza.	Rabies.	Tuberculosis.	Epidemic meningitis.	Polio-myelitis.	Pneumonia.	Septic sore throat.	Syphilis.	Gonorrhea.	Chancreoid.
Adams.....	5	3	21	13	101	25	15	644	1	—	—	—	18	6	3	2	—
Quincy.....	23	1	36	8	73	34	49	409	—	49	2	1	48	—	189	284	8
Alexander.....	4	5	26	136	8	—	31	259	—	4	—	—	13	60	1	1	—
Carro.....	1	8	—	93	6	26	66	464	—	6	—	—	36	—	29	3	—
Bond.....	1	8	13	166	36	—	13	1,545	—	13	1	—	45	66	6	12	3
Boone.....	—	10	28	200	22	49	10	591	—	22	—	3	33	—	—	—	—
Brown.....	3	12	42	12	51	177	—	797	—	3	—	1	6	—	10	—	—
Bureau.....	4	65	19	65	68	17	23	2,348	—	47	—	11	97	—	33	19	2
Calhoun.....	1	18	77	18	27	178	10	1,045	—	6	—	—	23	—	1	—	—
Carroll.....	—	38	43	38	8	31	10	—	—	17	—	—	35	—	2	6	—
Cass.....	9	151	22	151	29	—	29	927	—	8	—	—	36	3	24	27	—
Champaign.....	11	192	28	192	148	60	7	1,864	—	19	4	3	41	4	4	10	—
Champaign.....	13	25	7	25	62	62	9	309	—	56	—	5	4	—	181	398	4
Urbana.....	10	25	4	25	24	99	6	144	—	8	1	—	—	—	25	8	—
Christian.....	26	16	36	218	99	26	53	1,083	—	42	3	—	57	3	27	25	4
Clark.....	14	74	24	74	31	44	23	286	—	10	2	1	5	—	—	—	—
Clay.....	18	50	28	50	55	118	15	1,590	—	40	2	—	18	48	16	34	1
Clinton.....	17	32	2	32	27	71	26	1,122	—	6	14	—	17	8	12	4	—
Coles.....	13	81	15	81	84	20	15	908	—	24	1	1	30	6	26	17	—
Mattoon.....	64	387	1	387	16	23	17	162	—	13	—	11	55	—	74	71	1
Cook.....	37	1,609	44	1,609	972	896	678	6,514	—	254	12	11	604	80	63	113	16
Chicago.....	305	9,903	120	9,903	8,407	5,550	7,411	31,254	2	13,538	102	105	11,136	181	6,149	10,423	574
Evansville.....	9	56	6	56	177	223	28	618	—	11	3	1	34	—	—	—	—
Oak Park.....	7	156	5	156	183	198	98	495	—	31	—	1	132	—	1	3	—
Crawford.....	10	97	74	97	41	9	18	467	—	15	—	—	66	—	11	1	—
Cumberland.....	7	—	15	—	26	19	38	684	—	10	—	2	25	17	—	5	—
DeKalb.....	1	—	5	—	45	59	11	1,054	—	24	1	2	34	4	1	6	—
DeKalb.....	1	—	—	92	10	3	6	257	—	9	—	—	22	—	1	1	—
DeWitt.....	5	1	23	41	43	39	20	1,063	—	20	1	1	45	6	8	9	1
Douglas.....	20	11	34	147	144	40	63	731	—	69	—	2	59	8	2	4	—
DuPage.....	5	469	6	469	172	328	13	852	—	71	4	4	38	1	3	2	1
Edgar.....	5	163	279	163	89	5	8	752	—	5	—	—	16	34	4	9	—
Edwards.....	9	95	11	95	2	21	27	676	—	46	6	—	41	9	2	—	—
Effingham.....	28	116	44	116	49	14	40	637	—	21	1	3	13	41	2	10	—
Fayette.....	35	346	37	346	46	31	21	749	—	14	—	—	26	15	6	6	—
Ford.....	2	130	—	130	44	123	6	1,500	—	8	—	1	62	—	1	3	1
Franklin.....	105	630	500	630	24	103	36	2,049	2	25	3	2	100	—	116	84	11

Fulton.....	9	10	19	49	90	91	45	2,812	31	1	10	110	31	15	33	7
Gallatin.....	14	4	90	18	5	27	26	841	9	---	---	69	---	---	---	---
Greene.....	19	6	469	24	52	28	8	1,181	7	4	4	34	17	13	17	4
Grundy.....	2	3	59	6	80	13	27	729	27	1	---	41	27	3	---	---
Hamilton.....	20	20	589	104	64	18	20	1,256	15	---	---	33	12	---	2	---
Hancock.....	12	2	26	51	77	175	8	3,107	15	---	1	124	23	18	12	1
Hardin.....	2	2	30	8	1	---	1	99	1	3	---	3	---	---	---	---
Henderson.....	1	18	26	21	31	---	2	342	2	---	---	14	9	5	---	---
Henry.....	31	1	101	138	88	122	73	4,686	12	1	1	135	12	7	18	1
Kewanee.....	10	56	---	7	19	6	---	3,998	9	---	2	118	---	4	3	---
Iroquois.....	18	2	6	152	75	45	70	1,443	26	1	3	56	28	26	13	---
Jackson.....	19	27	103	333	86	12	17	1,569	36	5	2	183	10	62	34	4
Jasper.....	20	15	17	34	61	11	12	1,154	77	---	---	24	10	---	6	---
Jefferson.....	33	29	81	7	43	45	54	1,992	28	1	---	95	13	33	10	5
Jersey.....	10	1	72	9	11	10	---	154	2	---	---	8	3	4	9	1
JoDavies.....	6	9	10	57	28	66	3	509	7	3	4	20	---	6	2	---
Johnson.....	23	35	56	34	11	28	22	569	30	---	---	26	193	3	3	---
Kane.....	10	2	8	64	102	144	20	791	15	---	2	26	2	52	52	---
Kankakee.....	36	---	20	111	97	42	27	378	87	6	---	111	1	65	149	---
Elgin.....	10	6	2	280	70	175	15	734	84	2	---	114	---	78	56	4
Kankakee.....	18	5	11	402	29	166	61	1,035	87	---	3	96	40	18	5	---
Kendall.....	3	1	10	16	28	166	13	613	9	1	---	50	---	---	---	---
Knox.....	12	---	74	53	14	38	29	1,217	---	---	3	53	3	15	5	1
Galesburg.....	46	---	209	27	27	60	15	849	13	---	4	87	---	88	106	2
Lake.....	79	3	16	519	159	65	26	1,803	21	3	9	91	12	37	75	---
LaSalle.....	18	---	37	374	74	52	45	2,945	35	1	18	88	3	65	62	---
LaSalle.....	11	---	12	83	18	6	6	596	38	2	---	39	---	84	60	---
Streator.....	2	---	---	21	12	9	114	701	6	---	---	6	---	33	64	---
Lawrence.....	18	23	190	223	37	21	4	579	26	---	---	9	11	3	3	---
Lee.....	1	---	4	252	118	41	14	866	30	---	---	26	2	18	1	---
Livingston.....	6	---	6	387	135	58	33	2,460	20	1	---	110	7	121	45	---
Logan.....	5	---	32	187	63	50	35	2,205	29	1	1	129	5	44	25	2
Macon.....	5	1	16	481	101	51	44	921	17	---	1	20	3	24	20	4
Decatur.....	26	---	39	1,099	29	177	93	1,069	35	1	2	66	---	517	501	18
Macoupin.....	10	10	148	118	146	123	117	1,781	3	2	10	44	6	208	130	1
Madison.....	36	37	56	17	147	9	311	2,382	105	3	3	83	13	81	141	8
Alton.....	14	1	15	294	83	100	48	808	89	33	---	89	---	272	593	27
Marion.....	32	3	12	460	23	29	178	1,464	70	---	---	57	3	5	4	---
Marshall.....	3	48	3	18	6	---	5	730	4	---	3	68	---	9	3	---
Mason.....	12	5	15	1	40	---	18	1,296	11	---	---	21	2	4	14	1
Massac.....	11	26	72	53	55	3	47	186	25	---	---	20	4	8	---	---
McDonough.....	12	2	142	6	23	109	15	2,131	20	---	5	175	16	---	6	---
McHenry.....	5	---	4	398	250	42	146	1,600	20	1	4	87	15	7	36	9
McLean.....	12	84	8	300	126	143	109	2,315	17	3	1	84	17	22	68	---
Bloomington.....	13	---	3	217	117	91	45	402	77	---	---	18	---	167	51	2
Menard.....	3	12	214	14	50	19	20	1,415	20	---	1	36	13	12	42	---
Mercer.....	20	22	66	4	2	63	4	1,494	9	---	---	18	23	5	3	1
Monroe.....	5	2	---	91	53	2	8	358	.1	1	---	21	1	---	---	---

TABLE X—Concluded.

County.	Typhoid.	Malaria.	Smallpox.	Measles.	Scarlet fever.	Whooping cough.	Diphtheria.	Influenza.	Rabies.	Tuberculosis.	Epidemic meningitis.	Poliomyelitis.	Pneumonia.	Septic sore throat.	Syphilis.	Gonorrhea.	Chancroid.
Montgomery.....	18	10	21	342	64	117	65	1,410	---	18	1	---	69	17	56	40	1
Morgan.....	24	77	108	83	16	34	5	1,450	---	9	---	2	65	32	6	12	10
Jacksonville.....	37	1	103	48	7	10	12	484	---	27	---	---	14	---	120	56	3
Moultrie.....	1	3	37	109	47	12	7	895	---	1	---	1	11	7	4	5	---
Ogle.....	7	1	4	268	75	42	3	1,297	---	14	3	4	62	8	15	15	---
Peoria.....	3	17	56	87	111	47	30	643	---	8	4	---	30	6	10	7	---
Peoria.....	16	---	45	463	578	196	277	960	---	173	4	---	63	---	258	363	28
Perry.....	19	21	78	59	18	10	37	252	---	17	1	---	27	47	22	8	---
Piatt.....	1	---	8	448	50	81	9	737	---	18	---	13	24	2	---	1	---
Pike.....	18	64	164	102	14	50	1	2,506	---	28	1	---	44	8	3	32	1
Pope.....	---	8	13	25	---	5	4	322	---	23	---	---	15	19	14	22	3
Pulaski.....	4	23	63	131	2	4	8	306	---	19	---	2	17	3	---	---	---
Putnam.....	---	4	6	3	4	2	7	198	---	3	3	8	14	5	6	---	---
Randolph.....	---	---	4	14	---	19	---	217	---	1	---	---	4	---	---	---	---
Richland.....	6	---	29	6	46	5	43	1,245	---	8	---	---	28	2	9	---	2
Rock Island.....	33	1	262	629	68	169	61	794	---	90	4	4	74	---	52	206	8
Rock Island.....	14	---	144	660	51	208	48	501	---	91	4	---	116	---	151	221	15
Saline.....	62	65	383	526	36	64	103	710	---	46	1	1	79	61	5	190	4
Sangamon.....	14	10	64	78	107	8	71	1,075	---	6	1	4	57	46	8	24	2
Springfield.....	24	1	23	155	139	30	88	257	---	385	3	---	69	---	679	433	3
Scott.....	---	9	57	2	1	1	2	129	---	2	---	---	7	13	11	6	1
Schuyler.....	2	16	25	4	9	50	15	830	---	5	---	1	11	6	1	1	---
Shelby.....	18	2	4	254	51	68	8	1,170	---	9	---	2	32	16	5	3	---
Stark.....	2	---	4	9	10	14	2	535	---	4	---	3	17	---	---	2	---
St. Clair.....	12	33	23	430	6	29	62	715	---	11	3	4	33	1	14	12	---
B. Ilesville.....	25	---	1	511	11	9	164	164	---	11	---	---	6	---	44	164	1
East St. Louis.....	19	53	91	639	67	6	64	1,082	---	145	5	---	82	---	1,164	1,075	185
Stephenson.....	1	---	10	17	5	8	11	312	---	1	---	5	23	7	5	5	---
Freeport.....	2	---	7	38	43	47	19	563	---	14	2	1	50	---	140	266	2
Tazewell.....	13	---	11	128	60	18	26	1,188	---	12	2	3	38	---	11	19	---
Pekin.....	7	---	19	9	25	26	17	476	---	6	---	2	7	---	20	94	5
Union.....	22	240	127	80	13	26	46	948	---	22	1	---	49	65	3	4	---
Vermilion.....	20	7	81	704	62	109	15	1,189	---	25	---	2	63	42	24	71	---
Danville.....	4	---	13	111	24	58	24	2,014	---	47	2	1	190	---	56	29	17
Wabash.....	22	32	33	97	22	19	4	326	---	3	1	---	23	23	---	---	---
Warren.....	4	---	320	6	38	---	5	574	---	---	---	17	11	---	1	16	---
Washington.....	14	---	28	142	27	26	25	397	---	6	---	---	10	---	---	---	---
Wayne.....	16	32	43	157	9	---	13	1,150	---	12	---	---	50	2	3	8	---

White.....	32	1	139	13	15	54	44	1,903	-----	14	1	-----	3	36	15	-----	9	-----
White.....	2	41	49	1,030	58	54	44	1,829	-----	92	2	-----	3	129	4	-----	19	-----
Will.....	44	-----	11	192	66	13	51	710	-----	22	-----	-----	-----	34	1	-----	1	-----
Joliet.....	73	-----	45	134	55	14	41	240	-----	15	1	-----	-----	13	9	-----	27	1
Williamson.....	60	-----	48	397	43	25	82	1,461	-----	27	1	-----	2	68	5	-----	40	-----
Winnebago.....	-----	-----	24	95	120	8	25	598	-----	5	-----	-----	4	48	-----	6	-----	-----
Rockford.....	10	-----	19	111	185	39	123	1,811	-----	23	2	-----	-----	239	28	-----	177	8
Woodford.....	-----	-----	9	15	25	16	9	1,199	-----	6	2	-----	2	52	-----	6	-----	-----
State institutions.....	15	17	23	196	76	2	97	1,695	-----	807	3	-----	-----	110	39	-----	145	2
Total.....	2,293	2,011	7,807	33,535	16,810	13,275	12,876	170,954	14	18,286	302	364	18,370	1,789	13,222	17,670	984	-----

TABLE XI—COST OF COMMUNICABLE

DISEASES FISCAL YEAR, JULY 1, 1919 TO JUNE 30, 1920.

Rabies.	Tuberculosis.	Syphilis.	Gonorrhea infection.	Epidemic meningitis.	Polomyelitis.	Pneumonia.	Septic sore throat.	County total.	Per capita.
350	\$ 867,640	\$ 33,316	\$10,286	\$ 604	\$ 1,600		4,796	\$ 1,480,745	\$23.31
	924,840	30,916	18,736					1,700,787	65.27
	238,840	1,316	336	579			666	391,629	21.71
	160,240				700			307,490	20.06
	160,240	1,000			600		65	391,098	36.74
	461,550	7,116	475		3,200		3,196	724,786	18.25
	134,040	100						251,458	29.20
	147,140	4,016	186				1,600	223,916	12.40
	184,040	9,316	3,811				35	288,092	16.10
	497,740	27,916	15,836	1,304	850		1,620	918,661	16.41
	356,740	3,416	661	79	880		35	673,001	19.06
	343,640	7,116		54	600		3,185	543,092	23.09
	305,340	2,316	886	54	800		485	468,141	25.09
	251,950	11,216	136	1,464			85	431,706	18.81
	217,440	13,816	2,226	579	600		3,215	596,383	16.98
3,200	39,003,640	1,378,416	66,683	30,429	17,450	15,	57,740	65,856,363	21.50
	225,740	1,816	61					427,972	14.40
	61,640	7,116	3,261	1,954	100		175	205,651	14.40
	369,840	916	211	29	1,500		3,196	661,791	15.99
	188,400	4,616	261	654	60		3,215	322,966	16.68
	188,240	916	3,236		100		3,236	269,872	18.42
	343,640	4,116	86	654	750		15	653,641	13.15
	382,940	1,116	261	654	800		1,920	632,851	19.49
	225,740	916		154	800		95	415,315	41.32
	343,640	7,116	286	29	1,600		415	545,751	27.20
	317,440	1,316	186		2,400		6,455	607,422	21.62
	173,340	3,916	111		50			342,850	20.05
100	723,540	18,516	5,236	2,604	800		1,720	1,890,036	49.22
	396,040	11,616	861	29	1,000		1,690	874,616	18.55
	238,840						1,590	503,960	34.45
	291,240	5,116	461	104	750		175	521,331	22.63
	120,940	1,016		29			1,650	265,415	12.81
	330,540		86		800		125	569,086	31.27
	278,140	2,516	326		50		235	497,232	17.52
	124,040		3,636	79				231,250	46.71
	68,640	1,216					1,670	132,121	13.34
	396,040	8,016	561	29	150		6,425	1,055,651	24.30
	225,740	3,316	361	29	150		3,436	421,696	12.40
	527,040	22,416	896	129	1,600		3,255	1,199,706	32.34
	210,440		186				1,690	391,806	21.57
	553,240	10,216	286	29	800		135	812,186	27.01
	94,740	1,116	261				35	189,943	14.66
100	186,440	4,416	86	79	300			341,086	16.65
	120,940	1,076	111				3,510	328,607	27.32
50	1,444,040	38,616	12,661	1,854	800		11,060	1,774,754	15.62
	1,247,540	2,516	3,261		700		8,280	1,541,202	34.30
	61,640			579				145,514	13.50
	616,740	20,316	5,911	654	900		11,060	1,132,121	23.26
100	920,040	26,116	1,911	629	1,550		4,650	1,830,727	24.64
	916,540	14,936	4,436	79	475		3,185	1,688,331	18.17
	278,140	1,016	111	654			115	463,041	16.14
	238,840	2,516	61	654	600		1,600	471,701	17.00
	225,740	10,016	1,161	40	1,200		1,650	567,919	13.79
	540,140	5,116	661	40	50		55	750,579	23.67
	802,140	73,416	19,261	579	150		3,185	1,369,261	21.00
	502,140	24,616	3,286	86	2,150		3,215	769,286	13.43
	1,635,940	42,216	16,361	1,286	700		3,285	2,466,315	22.97
	608,740	10,516	136	61	100		1,610	1,113,170	29.75
	94,740	1,616	111		700		1,690	209,162	14.15
	37,200	7,316	396		800		25	180,442	10.65
	291,240	7,716					45	503,962	23.15
	173,340	1,316	186		250		3,040	405,107	15.06
50	356,740	1,416	936	29	300		3,305	629,668	18.96
3,150	841,440	35,116	11,811	629	800		3,325	1,068,091	28.72
	173,340	5,016	1,066				1,710	307,273	26.28
	186,440	1,216	111		1,000		1,810	345,127	18.46
	120,940			29			15	188,647	14.69
	435,340	15,616	4,136	29	800		175	810,766	19.10
	710,440	22,616	4,836		100		1,900	1,806,226	38.32

TABLE XI—

County.	Estimate population Jan. 1, 1920.	Typhoid.	Malaria.	Smallpox.	Measles.	Scarlet fever.	Whooping cough.	Diphtheria.	Influenza.
70. Moultrie.....	14,630	230	508	3,552	2,210	1,194	120	824	55,620
71. Ogle.....	27,864	1,430	188	417	3,250	2,904	1,150	99	87,540
72. Peoria.....	111,704	25,530	12,048	9,632	8,820	19,894	4,620	18,699	335,400
73. Perry.....	24,303	10,030	105,328	7,447	3,170	1,319	1,150	2,049	105,370
74. Piatt.....	15,714	5,130	-----	797	5,600	2,619	1,360	49	44,740
75. Pike.....	26,866	9,830	10,268	15,167	1,040	10,419	1,150	2,424	102,730
76. Pope.....	11,215	-----	1,108	1,282	270	-----	50	824	12,690
77. Pulaski.....	14,629	830	175,528	6,022	2,410	69	1,150	2,424	65,230
78. Putnam.....	10,325	-----	568	590	50	119	20	2,424	20,750
79. Randolph.....	29,109	30,630	35,128	417	6,320	-----	610	-----	73,640
80. Richland.....	15,970	1,230	35,128	2,792	80	90,999	1,150	3,849	68,420
81. Rock Island.....	85,301	25,730	188	41,707	15,960	33,544	12,650	6,049	165,020
82. Saline.....	38,353	51,030	16,628	36,422	8,580	919	3,450	9,634	208,770
83. Sangamon.....	110,121	23,130	4,888	8,302	4,000	8,369	2,300	14,424	248,890
84. Schuyler.....	13,285	40,830	2,588	2,412	60	244	1,150	4,042	45,670
85. Scott.....	9,489	-----	1,468	5,452	40	44	10	74	16,980
86. Shelby.....	29,601	6,330	348	507	3,110	3,919	1,830	224	117,270
87. Stark.....	10,098	430	-----	507	110	269	140	74	39,620
88. St. Clair.....	151,490	35,730	140,428	10,662	28,370	5,219	5,750	17,724	215,971
89. Stephenson.....	39,773	5,130	-----	1,652	590	7,819	3,450	3,224	174,220
90. Tazewell.....	34,814	6,630	6,548	2,887	1,390	2,694	9,200	1,219	112,900
91. Union.....	21,856	35,730	140,428	12,102	650	336	10	2,324	7,780
92. Vermilion.....	86,162	86,430	4,248	8,967	12,620	5,219	9,200	1,549	53,900
93. Wabash.....	17,201	20,430	105,328	3,172	5,270	2,619	190	824	63,770
94. Warren.....	23,456	5,130	-----	54,337	80	969	-----	149	89,610
95. Washington.....	18,759	9,930	41,128	5,297	1,990	694	1,150	699	25,840
96. Wayne.....	25,697	15,330	35,128	4,122	1,590	244	610	1,624	92,270
97. White.....	23,052	9,930	35,128	17,992	1,070	390	610	3,324	112,200
98. Whiteside.....	36,174	430	6,588	4,692	13,620	2,019	1,090	799	102,160
99. Will.....	92,875	66,330	-----	5,357	5,480	4,144	820	10,424	195,670
100. Williamson.....	62,105	71,430	26,308	2,197	18,920	2,619	4,100	12,824	234,080
101. Winnebago.....	90,929	5,130	668	4,122	3,180	24,169	2,670	9,774	304,440
102. Woodford.....	20,506	-----	668	892	170	644	160	249	43,160
Grand total.....	-----	\$2,066,110	\$2,703,153	\$809,119	\$591,701	\$770,334	\$453,490	\$945,069	\$18,895,551

Concluded.

Rabies.	Tuberculosis.	Syphilis.	Gonococcus infection.	Epidemic meningitis.	Poliomyelitis.	Pneumonia.	Septic sore throat.	County total.	Per capita.
-----	199,540	1,116	161	-----	50	47,462	1,650	314,237	21.48
-----	251,940	5,316	411	79	200	109,342	85	464,441	16.67
-----	2,295,540	87,516	18,336	1,304	2,400	546,142	7,940	3,393,821	30.38
-----	317,440	2,916	236	29	-----	43,822	475	600,782	20.60
-----	212,640	-----	61	-----	650	47,462	25	321,133	20.44
-----	448,440	4,116	836	1,304	-----	72,942	3,235	684,351	25.41
-----	74,540	5,216	6,376	-----	-----	5,378	190	107,913	9.62
-----	461,540	10,316	3,151	-----	1,050	65,662	1,610	796,992	54.48
-----	68,540	4,416	-----	79	950	25,622	55	124,183	12.02
-----	448,440	3,841	-----	-----	-----	134,822	8,345	740,193	25.42
-----	220,940	1,616	-----	-----	-----	44,022	1,600	390,826	24.47
-----	1,116,540	48,916	13,831	1,954	2,400	418,742	4,760	1,887,991	22.10
-----	540,140	13,616	4,786	29	1,600	98,422	2,190	996,206	25.97
-----	1,603,640	119,016	14,536	654	2,400	502,462	7,930	2,564,941	23.29
-----	173,340	816	61	-----	800	21,984	1,640	295,637	22.24
-----	55,440	1,816	186	-----	-----	25,622	135	107,247	11.30
-----	493,340	4,316	111	-----	100	112,982	165	744,552	25.25
-----	55,440	-----	86	-----	150	11,737	-----	108,563	10.75
-----	1,552,640	157,016	37,261	1,304	2,000	464,062	1,590	2,675,727	17.66
-----	382,940	20,766	6,786	54	250	131,182	6,375	744,438	18.71
-----	435,340	19,316	2,861	654	2,900	378,702	-----	983,241	28.24
-----	5,192,540	72,216	136	654	600	330,242	2,230	5,732,988	26.23
-----	1,168,940	45,916	18,036	54	150	327,742	10,305	1,753,276	23.49
-----	225,740	-----	-----	29	-----	25,622	1,810	454,854	25.14
-----	128,240	2,016	436	-----	850	249,662	6,525	543,104	23.11
-----	120,940	-----	-----	-----	-----	51,102	-----	259,270	13.82
-----	324,340	1,016	236	-----	-----	85,212	4,750	466,472	22.41
-----	382,940	-----	262	29	750	125,782	155	690,565	29.81
-----	369,840	9,016	511	654	2,350	35,862	1,620	551,251	15.23
-----	1,142,740	22,716	736	579	-----	407,822	6,585	1,869,403	21.38
3,200	815,240	12,416	1,036	579	1,600	210,800	6,355	1,423,704	22.94
-----	1,037,940	8,315	10,811	104	800	100,442	8,160	2,343,526	25.77
-----	147,140	4,016	186	104	100	41,262	6,345	245,096	11.95
\$10.050	\$90,002,500	\$3,539,103	\$360,483	\$60,620	\$81,925	\$28,436,953	\$301,500	\$150,070,738	\$22.93

DIVISION OF TUBERCULOSIS

GEORGE THOMAS PALMER, M. D., *Acting Chief*

For a number of years past, the State Department of Health has stood definitely for a policy of cooperation between governmental and extra-governmental agencies in all public health work. It is doubtful, however, if so satisfactory a degree of cooperation had been attained in any of the activities of the department as in those devoted to the prevention, suppression and cure of tuberculosis.

The assistant director of the department has served for many years as president of the Illinois Tuberculosis Association, and it has been possible during the past three years for the State association and the State Department of Health to agree upon one definite State tuberculosis program which has been carried out jointly by the two organizations.

In many desirable activities, the Division of Tuberculosis of the State Department of Health has been without funds and in such cases the State Tuberculosis Association has assumed that portion of the program. It is unquestionably true that this thoroughgoing cooperation between the State Government and extra-governmental agencies has been largely responsible for the remarkable progress made in Illinois which has attracted the attention of public health authorities and tuberculosis workers throughout the Nation.

The Illinois tuberculosis program has included the following activities:

1. The establishment of county tuberculosis sanatoria in all of the counties of the State, under the provisions of the Illinois County Tuberculosis Sanatorium Act. The law provides that these county sanatoria may be equipped at public expense with free tuberculosis clinics and visiting nurse service.

2. The stimulation of interest on the part of the medical profession in the diagnosis of early tuberculosis, to which end there has been maintained an efficient clinical consulting staff whose members have held clinics in cooperation with county medical societies in practically all of the counties of the State. This clinical service, in many instances, has resulted in the establishment of permanent clinics manned by efficient physicians and supported by private funds.

3. The establishment of public health or community nursing service maintained by private funds. Such services are now established in a majority of the counties of the State.

4. Child welfare activities, particularly in the public schools, including the enrollment of over 500,000 school children in Illinois in the organization known as "Modern Health Crusaders," and the stimulation of physical examination of school children, the weighing and measuring of school children, the establishment of nutrition classes and the development of open air schools and open window rooms.

5. The development of local tuberculosis associations, one of which is now more or less active in every county in the State. These local associations carry out various activities and are financed for the most part by the sale of Christmas Seals and health bonds through the Illinois Tuberculosis Association and the National Tuberculosis Association.

6. Tuberculosis surveys have been made in the majority of the counties of the State, primarily for the purpose of impressing upon the public the importance of the local tuberculosis problem as a forerunner to the submission to the people of the proposition of establishing county tuberculosis sanatoria or to the establishment of clinical and nursing service at private expense.

7. A comprehensive educational campaign keeping constantly before the public the importance of the tuberculosis problem, not only as it affects the prevention and suppression of this particular disease, but in its relationship to all phases of social and public health activity.

While much of the credit for the successful carrying out of this program is due to the Illinois Tuberculosis Association and to the generous spirit which has always marked the cooperation of that association with the State Department of Health, there are a number of functions necessarily performed by the State Department of Health itself which are contributing materially to the reduction of tuberculosis mortality and tuberculosis morbidity in Illinois. These include the following:

1. The examination of all plans of county tuberculosis sanatoria under the provisions of the County Tuberculosis Sanatorium Act, requiring that all premises used for sanatorium purposes shall first be approved by the State Department of Health.

2. The inspection of sanatorium sites with special attention to sanitary installation. This work has been done in conjunction with the Division of Sanitary Engineering.

3. The inspection of buildings, plants and sites purchased for sanatorium purposes with special reference to their fitness for such purposes, their sanitary installations, their fire hazards and other essential factors in sanatorium operation and equipment.

4. The inspection of existing municipal and county tuberculosis sanatoria and their rating or grading by a score card system for the purpose of placing in the hands of the public officials and the general public the relative standing of public and private institutions for the treatment of tuberculous persons.

5. The preparation of standard rules and regulations for the control of public tuberculosis sanatoria and the preparation of standard blanks and forms necessary to the carrying out of the provisions of the county tuberculosis sanatorium law.

6. The enforcement of the rules and regulations for the control of pulmonary tuberculosis, and the encouragement of the reporting of all known or suspected cases of tuberculosis to local health authorities by physicians, attendants, nurses, householders or any other persons.

7. The care and treatment of returned tuberculous soldiers, sailors, marines and nurses, and the following up of these persons after dismissal from sanatoria through notification of local health authorities and visiting nurse services.

I. COUNTY TUBERCULOSIS SANATORIA

Until the year 1917, Illinois had less satisfactory facilities for the care of its tuberculous citizens than any other of the larger states of the Union. The State had not established State tuberculosis sanatoria and, up to that time, there was no provision for the establishment of county tuberculosis sanatoria. The Forty-ninth General Assembly, however, enacted a county tuberculosis sanatorium law which is regarded as one of the most satisfactory in effect at the present time in any part of the United States. The law does not make the establishment of county tuberculosis sanatoria mandatory upon the county, but permits any group of citizens, numbering 100 or more, to petition the county board of supervisors or county commissioners to submit to the people by referendum the proposition of establishing such a sanatorium and of levying a special tax therefor. It then becomes mandatory upon the county board to submit the petition to the voters. The law is so written that there may be established, in connection with such tuberculosis sanatoria, free tuberculosis dispensaries and visiting nursing service. The Attorney General of Illinois has also held that even after the sanatorium proposition has been successfully carried, it is not mandatory upon the people actually to erect and maintain a sanatorium. The county tuberculosis sanatorium board upon being created, may lawfully spend funds derived from the sanatorium tax for the care of persons in existing public or private sanatoria. The law is specific, however, in providing that the benefits derived from the county tuberculosis sanatorium funds shall be utilized for rich and poor alike, the law being no more regarded as a

matter of philanthropy or charity than a law for the creation of the free schools of the State. Another commendable feature of the law is that county tuberculosis sanatoria cannot be built upon the grounds of a county almshouse and further, that no one having to do with a county almshouse can be connected in any way with the management of a county tuberculosis sanatorium.

Within the past few years, the county tuberculosis sanatorium proposition has been submitted in almost 50 of the 101 counties of the State, outside of Cook County, and in every instance save two, the proposition has carried by overwhelming majorities. In one of the counties of very small population and where no educational work had preceded the election, the measure was beaten, and, in another county, the measure was defeated on account of the faulty manner in which the ballot had been prepared. In this latter county, however, the measure later succeeded in passage and at the present time a sanatorium building, costing approximately \$150,000 has been purchased and will soon be ready for occupancy.

As these pages are written, a number of public sanatoria are in operation, several more are in the process of construction in spite of the difficulties attendant upon extensive building at the present time, while plans are prepared for others, and still others are under serious contemplation.

Municipal sanatoria created under the provisions of the municipal sanatorium law, enacted in 1915, are now in operation in Chicago, Rock Island, Peoria and Rockford. It is very likely that the municipal sanatorium at Rock Island will be abandoned for the establishment of a Rock Island County sanatorium.

Of the county tuberculosis sanatoria, those now in operation are "Fairview," McLean County tuberculosis sanatorium at Normal; Adams County tuberculosis sanatorium at Quincy; and the LaSalle County tuberculosis sanatorium at Ottawa. In DeKalb County a small sanatorium is now in operation at DeKalb and plans are being pushed for erection of more extensive buildings.

Among the county sanatoria actually under process of construction are the Morgan County sanatorium at Jacksonville; the Tazewell County tuberculosis sanatorium at Mackinaw; the McDonough County tuberculosis sanatorium at Bushnell; the Woodford County tuberculosis sanatorium at Minonk and the Kane County sanatorium at North Aurora.

The counties which have voted favorably on the county tuberculosis sanatorium proposition up to this time are as follows:

Adams.	Jackson.	Ogle.
Boone.	Jefferson.	Piatt.
Bureau.	Kane.	Pike.
Champaign.	Knox.	Randolph.
Christian.	LaSalle.	Rock Island.
Clark.	Lee.	Scott.
Clay.	Livingston.	Shelby.
Coles.	Logan.	Stephenson.
Crawford.	McDonough.	Tazewell.
DeKalb.	McLean.	Vermillion.
DeWitt.	Macon.	Whiteside.
Douglas.	Madison.	Will.
Fulton.	Marion.	Winnebago.
Grundy.	Montgomery.	Woodford.
Henry.	Morgan.	

Of these, the major portion have levied a tax and if not actually proceeding with the construction of a sanatorium, are making provision for their tuberculous people at public expense in existing public or private institutions.

A considerable number of these counties have already established permanent tuberculosis dispensaries, either with or without visiting nurse service, and it is anticipated that, within the next few years, practically all of the counties in the State of Illinois will have voted favorably on the tuberculosis sanatorium proposition and will have established free diagnostic service with the necessary visiting or community nurses.

II. STANDARDIZING ILLINOIS SANATORIA

For the purpose of attaining the highest degree of efficiency in the equipment and operation of public sanatoria in Illinois, the State Department of Health during the past year has carried out an inspection of all county and municipal sanatoria, rating these institutions by the employment of a score card which had received the approval of the National Sanatorium Association and the National Tuberculosis Association.

In making these inspections and ratings the State Department of Health was fortunate in securing the cooperation and financial assistance of the Illinois Tuberculosis Association and also of obtaining the services of Dr. W. H. Watterson, tuberculosis officer for the Eighth District of the Federal Board for Vocational Education, and a man who has had wide and varied experience in institutional work. Dr. Watterson, a number of years ago, established a small private tuberculosis sanatorium at Waukegan. He was later employed as medical superintendent in a private sanatorium in Minnesota, and later was connected in an important capacity with the Cook County Tuberculosis Sanatorium at Oak Forest and with the Chicago Municipal Tuberculosis Sanatorium. Since that time, in his connection with the Federal Board for Vocational Education, he has inspected a large number of institutions. This experience gave to Dr. Watterson an exceedingly broad vision in all types of institutions, including the little pioneer sanatorium with meagre

equipment, the high classed and expensive sanatorium and the large public institutions.

The inspections made during the past year by Dr. Watterson for the State Department of Health included only the public sanatoria over which the department is given a certain measure of jurisdiction by the Civil Administrative Code. In rating these institutions, on a basis of 100 points, the following weights, approved by the National Tuberculosis Association, were allowed: Location and site 3.0; plant and equipment 5.0; business and domestic management 18.0; medical and nursing service including care of patients 74.0.

In the arrangement of the score card, which was adopted from that approved by the National Sanatorium Association with certain modifications deemed necessary in Illinois, a certain degree of latitude was accorded the inspector for the purpose of determining the actual character of service rendered in the various institutions.

While a reasonable amount of credit was accorded an institution for the maintenance of well equipped laboratories, evidence was required that these laboratories were actually employed in every day work to obtain full credit. For example, an institution having large and well equipped X-ray laboratories, but whose records show that very few X-ray plates were made, was not rated as high as the institution which maintained no X-ray laboratories of its own, but which utilized to a considerable extent the services of an outside laboratory. In this respect, credit was also given for the ability of the X-ray technician to interpret his plates properly, this being regarded infinitely more important to the welfare of the patients than the mere possession of X-ray equipment.

In placing a rating upon the efficiency of medical treatment in the institution, the employment of such modern methods as artificial pneumothorax was given favorable consideration, but, on the other hand, when it was apparent that artificial pneumothorax was employed excessively or injudiciously, the institution was penalized, rather than credited.

It was definitely understood that in the first rating of Illinois public tuberculosis sanatoria, the scores would not be made public, but would be communicated to the boards of sanatorium trustees and other institutional authorities with a full explanation of the ratings, so that the inspection should have a full measure of educational value. For this reason the credits and ratings of Illinois sanatoria are not made public at this time, but it may be stated that the prevailing faults detected in the existing Illinois institutions, may be grouped as follows:

(a) Failure to appreciate that tuberculosis constitutes a distinct medical specialty and the consequent employment in public tuberculosis sanatoria of medical directors or attending physicians inadequately trained in tuberculosis work.

(b) Unsatisfactory methods of diagnosis.

(c) Failure to provide tuberculosis dispensaries for the detection of cases suited to sanatorium care and failure to provide dispensary and nursing service for sanatorium patients after discharge from their several institutions.

(d) Misinterpretation of the aims of the county tuberculosis sanatorium law and the care of patients in the spirit of public philanthropy or charity.

(e) Failure to employ properly trained and qualified nurses, especially those having tuberculosis experience.

It is expected that a second inspection and rating of public Illinois sanatoria will be made in the near future, in which case the results of these inspections will be open to the public so that public officials and the people as a whole may be properly guided in the selection of institutions and so that the people of the several counties may be fully advised as to the relative efficiency of the institution which they maintain.

It is also seriously under consideration to make a similar inspection and rating of all of the private tuberculosis sanatoria in the State. In making this latter inspection the State Department of Health will not insist upon its right or authority, but will make it optional with the private institutions as to whether or not such inspection is desired. It is believed that the sanatoria of the better class will welcome this service from the department, and that it will result in very great improvement in all of the institutions of the State.

During the past year, a great deal of time has been devoted by the Division of Tuberculosis to passing upon plans and specifications of proposed sanatoria and in inspecting buildings and premises purchased for sanatorium purposes. In this very important work the division has received valuable assistance from the Division of Sanitary Engineering which has conducted numerous investigations and studies of sanitary installation, providing the plans for water supply and sewage disposal and drainage.

The Division of Tuberculosis has also been engaged, at the instance of county tuberculosis sanatorium boards, in preparing rules and regulations for the operation of county tuberculosis sanatoria and forms and blanks necessary to carry out the provisions of the county tuberculosis sanatorium law.

On account of adverse legal decisions and conflicting opinions of legal counsel, it has been necessary to carry on voluminous correspondence in the guidance of county tuberculosis sanatorium boards, especially those counties where the proposed sanatorium tax was in excess of the constitutional tax limit. In some instances, it has been necessary to recommend the resubmission of the proposition to the people to secure authority for the levying of the excess tax, and in such cases the division has rendered every possible assistance in making preparations for cam-

paigns, while the Illinois Tuberculosis Association has undertaken the field work essential to the successful carrying out of such campaigns.

III. EXTENSION OF CLINICAL SERVICE

Recognizing the necessity of securing the thoroughgoing cooperation of the medical profession and of stimulating the interest of physicians in the early diagnosis of tuberculosis, the Division of Tuberculosis has cooperated with the Illinois Tuberculosis Association in the establishment of a clinical consultant service which is said to be the most efficiently conducted of any similar service in the United States. A clinical consultant staff made up of seven of the best known tuberculosis experts in Illinois, and headed by the acting chief of the Division of Tuberculosis, and by Dr. Russell E. Adkins, director of Medical Field Service of the Illinois Tuberculosis Association, has conducted 154 clinics in 102 communities of the State, covering 61 counties during the past year. These clinics have all been conducted with the cooperation of county medical societies and the attendance on the part of the medical profession has been very gratifying. In many instances it was found that the attendance of physicians at these clinical meetings had been greater than that of any local medical society meeting for a period of five years' past. In one community where, five years ago, it was impossible to induce any persons suspected as being tuberculous to present themselves for examination, seventy-four patients were found in the clinic waiting room at one time, while fourteen of the twenty physicians located in the county remained in attendance upon the clinic from early morning until late in the evening. It is generally recognized that this clinical service has been an enormous stimulus to the interest taken in tuberculosis work by the physicians of Illinois.

In connection with the care of returned sick and wounded tuberculous soldiers, sailors, marines and nurses, of whom there are approximately 3,000 in Illinois at the present time, the United States Public Health Service designated one physician in each county as a local medical examiner and also appointed other physicians as acting assistant surgeons and as consulting specialists. It is asserted that while the medical service accorded by the Federal Government to service men and women was for the most part satisfactory, there was a distinct need for special training of physicians in the diagnosis and treatment of those suffering from tuberculosis. For this reason the United States Public Health Service decided to establish, in a number of localities throughout the United States, schools for the diagnosis of tuberculosis designed for medical men attached to their service. In the establishment of the school in Illinois, it was decided that Springfield afforded the most suitable point on account of the large clinical facilities and on account of the cooperative assistance which could be rendered by the State Department of Health. The school was accordingly established in Spring-

field, in conjunction with the Palmer Tuberculosis Sanatoria, the Springfield Tuberculosis Association and the laboratories of the State Department of Health and, a little later, when a similar school established in Wisconsin had been abandoned, the Springfield school was made the Federal Service School for the States of Illinois and Wisconsin. The course extended over a period of seven days with three sessions each day and proved so successful that in all likelihood it will be conducted as a permanent institution, either by the United States Public Health Service or jointly by the Illinois State Department of Health and the Illinois Tuberculosis Association.

IV. TUBERCULOSIS WORK AMONG SCHOOL CHILDREN

It is now generally recognized that tuberculosis among adults is for the most part dependent upon infection occurring during childhood, one authority going so far as to say that all such infection occurs prior to the sixth year of life. Whether or not this assertion is too sweeping, it is generally accepted that all tuberculous disease is more or less dependent upon childhood infection; that perhaps 80 per cent of the adult population show evidence of tuberculous infection which does not manifest itself as a distinct disease until something arises in the life of the individual which lowers his resistance. On this account work among school children has become an exceedingly important part of tuberculosis work, and the Illinois program for the prevention and suppression of tuberculosis has included a large amount of such child welfare activities although, for the most part, this work has been delegated in the joint program to the Illinois Tuberculosis Association.

It is stated that at the present time there are over 500,000 Illinois school children enrolled in an organization known as the "Modern Health Crusaders." This organization, fostered by the National Tuberculosis Association, not only carries out an educational campaign on general health in the schools, but imposes upon each of its members an obligation actually to live a wholesome life. The individual school child is regularly graded and scored on his performance of the health program, while the individual school rooms are graded on their percentage in health efficiency. In this way the individual child is not only interested in living a wholesome life so that he may attain a high personal score, but he is jealous of the conduct of his associates lest their carelessness lower the standing of the school room or of the school.

Included in the program of the modern health crusaders is the work of weighing and measuring school children, coupled up closely with the physical examination of pupils and the functions of the school nurse. The weighing, measuring and examination of school children, through the Illinois tuberculosis program, has brought to light scores of children physically below par who are in need of special nourishment or of unusual provision for their school care.

The Division of Tuberculosis, working in conjunction with the Illinois Tuberculosis Association, has constantly advocated the establishment of open air schools or open window rooms in all schools in Illinois, and it is contemplated that this educational program will be carried out to such an extent that there will be provision for the undernourished or physically subnormal child in all parts of the State during the next few years.

The Illinois Tuberculosis Association has established a working relationship with the Illinois Council of Parent-Teacher Associations whereby the Illinois school tuberculosis program has been made the essential health program of parent-teacher organizations, and as these lines are written, a future cooperative arrangement has been entered into with the Elizabeth McCormick Memorial Fund whereby special nutrition classes will be financed with Christmas Seal funds in every county in the State during the coming year. The Illinois Tuberculosis Association has designated one of its most competent nursing supervisors to the special field of nutrition work. During the coming year, the Division of Child Hygiene and Public Health Nursing of the State Department of Health will doubtless lend all possible assistance to the Division of Tuberculosis, the Illinois Tuberculosis Association and the Illinois Council of Parent-Teacher Associations to bring about the first definite and coordinated activity among school children that has been carried out on a state-wide basis.

It is stated over 60 per cent of the county superintendents of schools throughout Illinois have announced that their teachers may receive special credits in their professional records for all modern health crusade work in which they are engaged.

V. ESTABLISHING NURSING SERVICE

For a period of over ten years, the Illinois Tuberculosis Association has been the one organization in Illinois interested in the establishment of community nursing service. It is stated that there are a few communities in the State where public health nursing, tuberculosis nursing, child welfare nursing or school nursing is now in operation in which the tuberculosis agencies have not taken the initial step in establishing such services. The Illinois Tuberculosis Association has nursing service in its affiliated organizations in 60 of the 102 counties in the State, while funds are on hand in local treasuries for the employment of many more nurses who could not be obtained on account of the unusual demands and shortage of nurses during the past few years.

The Division of Tuberculosis has cooperated closely with the Illinois Tuberculosis Association in the establishment of local nursing service and, while the supervision of nursing service will in the future be turned over very largely to the Division of Child Welfare and Public Health Nursing under the provisions of a contract with the American Red Cross

and the State Tuberculosis Association, to which reference has been made heretofore, the Division of Tuberculosis will continue to interest itself, not only in the establishment of general community nursing service, but in the employment of special tuberculosis nurses in all of those communities in which sanatoria are established or in which it is deemed expedient to maintain special tuberculosis dispensaries. The State Department of Health, working jointly with the Illinois Tuberculosis Association, will employ a supervisor of tuberculosis nursing who will be affiliated with the Division of Child Welfare but who at the same time will be responsible to and work in close connection with the Division of Tuberculosis.

During the past year, the Chicago School of Physics and Philanthropy, in the maintenance of their classes for public health nurses, have insisted that these nurses devote at least one month to actual field service under supervision, and the Illinois Tuberculosis Association has been asked to assign these nurses, who are for the most part women of special training and ability. It has been the policy of the Illinois tuberculosis program to place these women in groups of counties where nursing service has never been established in the past, and where they will be so situated as to make constant supervision by the supervising nurses entirely practicable. The nurses are furnished for a period of one month without cost to the community and the results of the experiment have been most gratifying. In many instances the communities had no previous intention of establishing a permanent nursing service, and for the most part, these women have had no intention of remaining in rural communities. As a result of the one month of employment, most of the communities have decided to establish a permanent nursing service, and, in the majority of instances, the nurses have decided to remain in the communities in which they were originally employed.

Unfortunately the Chicago School of Physics and Philanthropy, in being taken over by the University of Chicago, has decided to discontinue its course for public health nurses. In view of this fact it appears that there is an urgent need for the State of Illinois to make provision for the training of community nurses in one way or another. It has been suggested that a short course for community nurses be established in connection with the University of Illinois, with the cooperation of the State Department of Health, the Illinois Tuberculosis Association, the American Red Cross and other governmental and extra-governmental agencies. It is quite conceivable that this course may be established in connection with the medical department of the University of Illinois, now in process of development, in the city of Chicago, but it is believed by those of wide experience that a large part of the instruction should be given either at Urbana or Springfield so that the graduates may be especially qualified to deal with the nursing problems of the smaller communities of the State.

VI. COUNTY TUBERCULOSIS SURVEYS

In every county in which one of the nurses of the Chicago School of Physics and Philanthropy was placed by the Illinois Tuberculosis Association, an intensive tuberculosis survey of the county was made. In some instances these surveys were made in connection with general health surveys conducted by the Division of Surveys and Rural Hygiene of the State Department of Health, but in others, the tuberculosis surveys were made by the community nurse working alone or in cooperation with the local tuberculosis association.

These surveys have brought home to the people the magnitude of the tuberculosis problem and have impressed upon every county the need for sanatoria, dispensaries and nursing service.

It has been demonstrated in the Framingham experiment, at Framingham, Massachusetts, financed by the Metropolitan Life Insurance Company and carried out by the National Tuberculosis Association, that there are 20 tuberculous persons to every annual death in any community. The Framingham experiment has been the most carefully executed piece of community work ever carried out in the United States, and the conclusions derived from it are regarded as conservative and sound. In view of the findings of the Framingham experiment, and in view of the number of deaths from tuberculosis unearthed in the many local surveys that have been conducted during the past year, one must be impressed that the tuberculosis problem of Illinois is one of greater magnitude than has ever been conceived in the past.

VII. CARE OF RETURNED TUBERCULOUS SOLDIERS

The Division of Tuberculosis of the State Department of Health and the Illinois Tuberculosis Association, take pride in the fact that, before any other agency began to function, these two organizations in their coordinated program, began to make provision for the soldiers, sailors, marines and nurses who returned to their homes in Illinois suffering from pulmonary tuberculosis. Before the American Red Cross was prepared to meet the need and before the United States Public Health Service had been authorized by law to make provision for returned soldiers, the Illinois Tuberculosis Association and the State Department of Health had begun the location and examination of men discharged from service on account of a suspicion of tuberculous disease, and had influenced many of the counties to meet the expense of sanatorium care for these unfortunate persons.

While the American Red Cross has assumed a larger and larger burden in making provision for returned soldiers, and while the Congress of the United States has authorized the United States Public Health Service to give sanatorium and other care to these persons, the Illinois Tuberculosis Association and the State Department of Health have continued their activities, contributing materially to the relief of service

men and women. By a constant program of stimulating the development of as many sanatorium beds as possible; by urging all returned soldiers, sailors, marines and nurses to attend the scores of clinics which have been held throughout the State; by keeping the United States Public Health Service and the Red Cross advised of every tuberculosis case for whom definite provision had been made, and by seeking out through local associations and nursing service all soldiers who might possibly be in need of care, the Division of Tuberculosis and the Illinois Tuberculosis Association have rendered a definite service which has received official recognition and earnest commendation.

RECOMMENDATIONS

The Division of Tuberculosis, basing its judgment upon its experience in the past, makes definite recommendations along the following lines:

(1) That the rules and regulations of the State Department of Health for the control of tuberculosis be so modified as to impress upon local health authorities that tuberculosis is not to be dealt with in the same manner as the several acute contagious and infectious diseases. The impression that tuberculosis is particularly infectious among adults and particularly that the trained and careful consumptive is a source of grave danger, have been relegated to the past by modern students of the disease. It is the opinion of the division that a public policy of rigid isolation of ordinary tuberculosis patients or any attempt of rigid quarantine is a mistake and that the question of forcible isolation of any save viciously careless consumptives, should be approached with the utmost reluctance. It is the opinion of the division that local health authorities will make far more progress in the prevention and suppression of tuberculosis if they approach the individual tuberculous patient with the idea of education rather than stringent and mandatory action.

(2) In view of the fact that tuberculosis among adults is almost invariably due to childhood infection and in view of the fact that tuberculosis is an extremely infectious disease to children, the Division of Tuberculosis recommends that the State Department of Health, in the promulgation of rules and regulations and in its educational campaigns, shall lay special stress upon the danger of childhood infection and shall institute all reasonable means to remove all children from contact with tuberculous persons.

(3) It is urged that all public sanatoria for the care of tuberculous persons be provided with quarters for the housing and care of the children of tuberculous parents or other children who must otherwise be in contact with open cases of pulmonary tuberculosis. Such preventoria will serve as a means of saving scores of persons from tuberculous disease who would otherwise necessarily become its victims.

(4) The Division of Tuberculosis recommends that the personnel of the Division be materially strengthened during the next biennium. During the past three years the division has been enabled to participate in a constructive program which would have been impossible without the thoroughgoing cooperation of extra-governmental agencies. The division believes that it is the function of extra-governmental health organizations to carry out pioneer work until they have been able to demonstrate to the public the extent and necessity for such work, whereupon it becomes the part of wisdom for the people themselves to assume the burden of such programs. The Illinois Tuberculosis Association will always prove a valuable ally to the State Department of Health, but should be permitted to engage its resources and its funds in more advanced steps in the study and prevention of tuberculosis, leaving to the State Department of Health the carrying out of those measures already demonstrated as essential to the public as a whole.

DIVISION OF ENGINEERING AND SANITATION

HARRY F. FERGUSON, *Acting Chief Sanitary Engineer*

The activities of the Division of Engineering and Sanitation are regulated by the authority given the Department of Public Health and by special provisions in the following sections of article 55 of the Civil Administrative Code:

3. To act in advisory capacity relative to public water supplies, water-purification works, sewerage system, and sewage-treatment works, and to exercise supervision over nuisances growing out of the operation of such water and sewage works, and to make, promulgate and enforce rules and regulations relating to such nuisances;

4. To make such sanitary investigations as it may, from time to time, deem necessary for the preservation and improvement of public health;

5. To make examinations into nuisances and questions affecting the security of life and health in any locality in the State;

6. To maintain chemical, bacteriological and biological laboratories, to make examinations of milk, water, sewage, wastes, and other substances, and to make such diagnosis of diseases as may be deemed necessary for the protection of the people of the State;

9. To make investigations and inquiries with respect to causes of disease, especially epidemics.....and to make such other sanitary investigations as it may deem necessary for the preservation and improvement of the public health;

13. To enlist the cooperation of organizations of physicians and other agencies for the promotion of the public health in the improvement of health and sanitary conditions throughout the State;

14. To make sanitary, sewage, health and other inspections and examinations for the charitable, penal and reformatory institutions and the normal schools;

15. To inspect, from time to time, all hospitals, sanitarium, and other institutions conducted by county, city, village or township authorities, and to report as to the sanitary conditions and needs of such hospitals, sanitarium and institutions to the official authority having jurisdiction over them;

16. To print, publish and distribute documents, reports, bulletins, certificates, and other matter relating to the prevention of diseases and the health and sanitary condition of the State.

In section 2 of article 21 of the act creating the State Board of Health, the following powers and duties were invested in the State Board of Health: "The board shall have authority to make such rules and regulations and such sanitary investigations as they may from time to time deem necessary for the preservation and improvement of the public health * * *." On the basis of this authority, which by section 1 of article 55 of the Civil Administrative Code is now vested in the State Department of Public Health, the following rules relating to public water supplies, sewerage systems, and ice supplies were adopted

at a meeting of the State Board of Health on April 5, 1916, and became immediately effective:

Rule 1. No municipality, district, corporation, company, institution, person or persons shall install, or enter into contract for installing, waterworks or sewers to serve more than 25 persons until complete plans and specifications fully describing such waterworks or sewers, have been submitted to and received the written approval of the State Board of Health and thereafter such plans and specifications must be substantially adhered to unless deviations are submitted to and receive the written approval of the State Board of Health.

Rule 2. No municipality, district, corporation, company, institution, person or persons shall make or enter into contract for making any additions to, or changes or alterations in, any existing waterworks serving more than 25 persons, when such additions, changes, or alterations involve the source of supply or means for collecting, storing, or treating the water, until complete plans and specifications fully describing proposed additions, changes or alterations have been submitted to and received the written approval of the State Board of Health and thereafter such plans and specifications must be substantially adhered to unless deviations are submitted to and receive the written approval of the State Board of Health.

Rule 3. No municipality, district, corporation, company, institution, persons or person shall make, or enter into contract for making, alterations or changes in or additions to any existing sewers or existing sewage-treatment works, serving more than 25 persons, until complete plans and specifications fully describing such alterations, changes or additions have been submitted to and received the written approval of the State Board of Health and thereafter such plans and specifications must be substantially adhered to unless deviations are submitted to and receive the written approval of the State Board of Health.

Rule 4. Any municipality, district, corporation, company, institution, persons or person, owning or operating a water-purification works or sewage-treatment works, shall submit to the State Board of Health monthly records showing clearly the character of effluents produced.

Rule 5. No municipality, district, corporation, company, institution, person or persons shall offer lots for sale in any subdivision, unless within the boundaries of an area incorporated as a municipality or sanitary district, until complete plans and specifications for sewerage, drainage and water supply have been submitted to and received the written approval of the State Board of Health and thereafter such plans and specifications shall be substantially adhered to unless deviations are submitted to and receive the written approval of the State Board of Health.

Rule 6. No natural ice shall be furnished or vended to the public for domestic purposes until the source of the ice supply has received the written approval of the State Board of Health, which approval is revocable upon evidence being presented or discovered of undue contamination entering the source.

The activities of the Division of Engineering and Sanitation are carried out in accordance with the foregoing rules and the foregoing provisions of the law.

PERSONNEL OF THE DIVISION

With the slightly increased appropriation authorized by the Fifty-first General Assembly, it was possible to increase the staff temporarily by the addition of two assistant engineers and an assistant analyst. During the year, however, the division has suffered the loss of Mr. Paul

Hansen, who had been chief engineer since the creation of the division in 1915, and who resigned May 15 to enter private practice. Moreover, during the year, because of the limited funds available and the consequent inability to meet the larger salaries offered elsewhere, the division has lost the services of three assistant engineers. The maximum staff of the division at any time comprised a chief engineer, five assistant engineers, one analyst, one assistant analyst, a laboratory helper, and three stenographers. At the close of the fiscal year the division was short three assistant engineers.

ACTIVITIES OF THE DIVISION

The activities of the Division of Engineering and Sanitation, as regulated and prescribed by the Civil Administrative Code and by the rules adopted by the department under the authority of the code may be classified as follows:

1. Investigation and approval of proposed new or improved public water-supply projects and examination of and advice relative to existing public water supplies, including water-purification plants.
2. Investigation and approval of proposed new or improved public sewerage projects, including sewage-treatment plants, and examination of and advice relative to existing sewer systems including sewage-treatment plants.
3. Investigation of stream pollution.
4. Investigation of methods for the purification of sewage and industrial wastes.
5. Examination and certification of water supplies for use on common carriers in cooperation with the United States Public Health Service.
6. Sanitary surveys of municipalities in cooperation with the Division of Surveys with special reference to water supply, sewerage, street cleaning, city wastes collection and disposal, and mosquito eradication.
7. Examination and approval of proposed municipal plumbing ordinances as required under the State law relative to licensing of plumbers and supervision of plumbing.
8. Investigation of nuisances.
9. Investigation of diseases that may be water-borne, such as typhoid fever and enteritis, in cooperation with the Division of Communicable Diseases.
10. Investigation of sites for tuberculosis sanatoria with special reference to water supply, sewage disposal, and drainage, as a basis for approval of such sites as required under the State law.
11. Investigation of sanitary condition of school buildings.
12. Studies of city waste collection and disposal and street cleaning.
13. Studies and advice on malaria control by mosquito eradication.
14. Sanitation of common carriers and construction camps.
15. Inspection of summer resorts.
16. Examinations of public swimming pools and bathing beaches.
17. Laboratory service.
18. State House drinking water supply.
19. Educational work by means of publications, addresses, exhibits, and correspondence.

Full attention has been given to the more important work and a certain amount of work in connection with all the enumerated activities has been carried on. Much of the work the division has been able to do

only to a limited extent is of importance to the health and welfare of the State and sooner or later sufficient funds should be granted to carry on such work if Illinois desires to render the same service to its citizens as that afforded in some of the other states.

Reports have been prepared on all the investigations and examinations made during the year, and copies of these reports are retained in the departmental files and also sent to interested parties. Many of these reports would be of value if published and it is hoped, therefore, that rather complete abstracts of the reports can at some time in the future be published and made available for the use of engineers and sanitarians. These reports give information regarding public water supplies, sewer systems, and various other matters of sanitary importance.

WATER SUPPLIES

A public water supply of good sanitary quality and adequate in quantity is undoubtedly the most important public improvement any municipality can undertake. Such an improvement not only is of prime importance as regards the health of the community, but is of great importance from the standpoint of convenience and fire protection. If there is no public supply, then persons must generally depend upon private wells which experience has shown cannot be maintained in satisfactory condition in a built-up community. When a public water supply of questionable quality is available, it is a grave source of danger to strangers in the city who are not aware that it is not considered safe, and also to local persons who disregard instructions not to use the water for drinking purposes. Moreover, an unfit public water supply forces individuals to continue the use of private wells yielding waters of questionable purity. Every effort, therefore, is made to have municipalities install public water supplies; to improve supplies of poor quality and inadequate quantity, and to operate existing waterworks systems so as to insure a continued supply of satisfactory water.

PROPOSED NEW WATER-SUPPLY PROJECTS

It is much easier and more satisfactory to have a municipality install a supply of satisfactory quality and quantity, when a water-supply project is under consideration, than attempt to improve an unsatisfactory supply already installed. Special attention, therefore, is given to proposed new projects in order to assist the municipalities in every way possible and to insure that the projects when completed will afford the municipalities satisfactory and adequate water supplies. Field investigations are made to help locate suitable sources of water supply and to advise with municipalities in the development of such sources. It is always recommended that competent engineers experienced in water-supply development be retained, and it is required that plans and specifications, when prepared by the municipalities' engineers, be submitted for review and approval. These activities not only tend to prevent the

installation of inadequate systems, but, in carrying on this work, the division gathers together a large amount of information and data relative to water-supply resources and methods and difficulties of developing and treating different water supplies, which information, in turn, is made available to consulting engineers and municipal officials.

Because of the prevailing high prices, there has been some tendency to delay the installation of new water supplies. Several cities have given consideration to such installations, but have temporarily postponed action.

During the fiscal year, investigations relative to proposed new water supplies were made at the following places: Altamont, Ashland, Burr Oak, Carterville, Dallas City, Eldorado, Oblong, Toledo, Virden, Westville and Witt.

PROPOSED IMPROVED WATER SUPPLIES

Many public water supplies in the State were installed primarily for fire protection, flushing and street-sprinkling purposes, and little thought was given, in their installation, to their use for domestic purposes. Other supplies have been installed with the ultimate aim of using them for all purposes but, because of lack of funds, suitable treatment works could not be installed at the start which would render these supplies at all times of satisfactory quality. From the health standpoint, a public water supply that is not always of good sanitary quality is more dangerous than private wells in a community without a public supply. If a private well becomes contaminated, only a few persons are exposed, but if a public supply becomes contaminated, many may be exposed to water-borne diseases. Every effort is made, therefore, by visits to municipalities, by reports, and by correspondence to urge municipalities having inadequate or unsatisfactory supplies to take necessary action to improve them. In some instances this requires only the installation of a treatment plant and in other instances an entire new supply must be developed. The division aids in this work by means of field examinations similar to those made for new projects.

There is a very apparent desire on the part of many municipalities in the State, having unsatisfactory supplies, to improve them but, as in the case of new projects, improvements have been delayed because of prevailing high prices. In addition to improvements in existing water supplies of poor quality it has been necessary in several instances to consider enlargements of waterworks systems because of growth of municipalities and increased water consumption.

During the fiscal year the following places were visited relative to proposed improvement or enlargement of existing water supplies: Carlinville, Carthage, Danville, DuQuoin, Elgin, Jacksonville, Lake Forest, Litchfield, Marion, Mascoutah, Newton, Princeton, Roodhouse, Rushville and West Frankfort.

EXISTING PUBLIC WATER SUPPLIES

The division has continued making examinations of existing public water supplies and the preparation of complete descriptive reports of such supplies. There are about 475 public water supplies in the State, of which the department has knowledge. Descriptive reports on most of these supplies have been prepared and analyses have been made of samples of water from other places which have not yet been visited. It is the intention to visit the places that have not already been visited, as field examinations often show conditions which cannot be ascertained by a single or even several analyses. This work is carried on as fast as emergency work and other duties permit and many places are visited more than once in order to note improvements or urge improvements which have been found desirable on previous visits.

The department does not have authority to require local officials to remedy any defects noted, but often has been instrumental in bringing about improvements by means of descriptive and advisory reports submitted as result of examinations. In some instances even serious conditions of public water supplies are not corrected when they are pointed out to local authorities, and therefore, the question arises whether it would not be desirable for the State Department of Health to have authority to prohibit the furnishing of a public water supply of unsafe quality or that may become unsafe at any time because of existing conditions.

During the fiscal year, the following places were visited to make examinations of existing public water supplies in addition to those places listed above where improvements were under consideration:

PLACES VISITED TO EXAMINE EXISTING PUBLIC WATER SUPPLIES IN ADDITION TO THOSE PLACES WHERE IMPROVEMENTS WERE PROPOSED

Aledo.	Galesburg.	Pontiac.
Anna.	Hamilton.	Princeton.
Antioch.	Herrin.	Quincy.
Argo.	Highland Park.	Rankin.
Assumption.	Hillsboro.	Rock Island.
Aurora.	Hinsdale.	Rock Island Arsenal.
Avon.	Hoopeston.	Salem.
Barry.	Joliet.	Savanna.
Bureau.	Kankakee.	Sparta.
Bushnell.	Kewanee.	Spring Valley.
Cairo.	Lawrenceville.	Staunton.
Carbondale.	Lombard.	St. Charles.
Carlinville.	Macomb.	Sterling.
Casey.	Manteno.	Streator.
Champaign.	Menard (prison).	Stronghurst.
Charleston.	Mendota.	Sublette.
Chester.	Minonk.	Taylorville.
Christopher.	Moline.	Tinley Park.
Cissna Park.	Momence.	Tuscola.
Congress Park.	Mounds.	Urbana.
Danville.	Mt. Carmel.	Villa Park.
Decatur.	Mt. Vernon.	Warren.
DeKalb.	Murphysboro.	Warsaw.
Dwight.	Neoga.	Washington.
East Dundee.	New Baden.	Watertown.
Effingham.	Odell.	Watseka.
Elgin.	Olney.	West Frankfort.
Eureka.	Oswego.	Wheaton.
Flora.	Ottawa.	Wilmington.
Freeport.	Pana.	
Galena.	Pinckneyville.	

WATER-PURIFICATION PLANTS

A special phase of the examination of existing water supplies is the examination of water-purification plants. Some plants are old or of poor design, but even those plants of good design will not furnish good results unless properly operated. The division, therefore, endeavors to help obtain the best possible results from existing purification plants, even though such plants may be defective, until such time as new purification plants can be built, and also endeavors to follow the operation of the plants that are of good design and generally carefully operated. The number of purification plants has materially increased during the past decade and a still further increase will be necessary before the majority of municipalities in Illinois having public supplies from surface sources will have satisfactory supplies. The places where the public water supplies are treated are given in the tabulation.

SEWERAGE

The public improvement that is probably next in importance to a water-supply system for a municipality is a sanitary sewer system. The installation of such a system makes it possible to eliminate privies, cesspools, and private drains which are generally filthy, insanitary, and cause nuisances. Privies also are a menace to health because of the possibility of flies carrying infection from them. A sewer system, in addition to bringing about improved sanitary conditions, makes it possible for persons to take full advantage of a public water supply. A number of municipalities have public water supplies, but full advantage of the thousands of dollars invested in them cannot be had because of the lack of adequate sewerage. The division, therefore, endeavors to promote the installation of sewer systems; to control such installations so that they will be satisfactory, and to bring about improvements or enlargements in existing systems. This work is carried on by means of field examinations, reports and correspondence, the same as for public water supplies.

In addition to the examinations made of sewer systems where improvements are proposed or treatment is given, examinations are made of existing sewer systems to ascertain their suitability, the extent to which they are used, and their points of outlets. Many such examinations are made as the result of nuisances arising from defective systems or stream pollution, but some are made as part of complete examinations of public water supplies and general sanitary conditions.

PROPOSED NEW SEWER SYSTEMS

Since the elimination of privies and cesspools brings about greatly improved sanitary and health conditions, and since such elimination cannot be brought about without the installation of sewer systems, it is an important function of the Department of Public Health to give consideration to the installation of these systems. The installation of a

PLACES HAVING TREATED WATER SUPPLIES.

Municipality.	Owner-ship.	Source.	Type of plant.	Chemicals used.
Alton.....	P	Mississippi River.....	S-RSF	LI-H
Anna State Hospital.....		Kohler Creek Reservoir.....	S-RSF	A-H
Aurora.....	M	Wells.....		C***
Breese.....	M	Kaskaskia River.....	S	LI
Cairo.....	P	Ohio River.....	S-RSF	A-H
Carbondale.....	P	Wells.....		C
Carlinville.....	P	Macoupin Creek.....	S-RSF	A-C
Centralia.....	M	Morton Branch Reservoir.....		C
Champaign**.....	P	Wells.....		C
Charleston.....	M	Embarrass River.....	S-RSF	A
Chicago.....	M	Lake Michigan.....		C
Christopher.....	M	Impounding reservoir.....		C
Danville.....	P	Vermilion River.....	S-RSF	A-C
Decatur.....	M	Sangamon River.....	S-RSF	A-C
DuQuoin.....	P	Mine.....		C
East St. Louis.....	P	Mississippi River.....	S-RSF	A-C
Effingham.....	P	Little Wabash River.....	S-RSF	A-C
Elgin****.....	M	Wells and Fox Rivers.....	PF	A-C
Evanston.....	M	Lake Michigan.....	S-RSF	A-H
Fort Sheridan.....	US	Lake Michigan.....	PF	H
Freeport**.....	P	Wells.....	S-RSF	L
Great Lakes Naval Station.....	US	Lake Michigan.....	S-SSF	A-C
Hamilton.....	M	Mississippi River.....	S-RSF	A-C
Harrisburg.....	P	Saline River.....	S-RSF	A-C
Herrin.....	M	Hurricane Creek Reservoir.....	S-RSF	A-C
Highland Park.....	M	Lake Michigan.....		C
Hinsdale*.....	M	Wells.....	S-RSF	LN-A
Johnston City.....	P	Lake Creek and wells.....		C
Kankakee.....	P	Kankakee River.....	S-RSF	A-C
Kenilworth.....	P	Lake Michigan.....	S-RSF	A
Lake Forest.....	P	Lake Michigan.....	S-PF	A-H
Lawrenceville.....	P	Embarrass River.....	S-RSF	A-C
Macomb.....	M	Crooked Creek.....	S-RSF	A-H
Menard State Prison.....		Springs and Mississippi River.....		C
McLeansboro.....	M	North Fork Saline River.....	PF	A
Moline.....	M	Mississippi River.....	S-RSF	A-C
Mt. Carmel.....	P	Wabash River.....	S-RSF	A-C
Mt. Vernon.....	P	Pond and Casey Fork.....	S-RSF	A-H
Murphysboro.....	P	Big Muddy River.....	S-RSF	A-H
North Chicago.....	M	Lake Michigan.....		C
Pana.....	M	Wells and Becks Creek.....	RSF	A
Peoria***.....	P	Wells.....		C
Pontiac.....	P	Illinois-Vermilion River.....	S-RSF	A-H
Quincy.....	M	Mississippi River.....	S-RSF	A-C
Rock Island.....	M	Mississippi River.....	S-RSF	A-C
Rock Island Arsenal.....	US	Mississippi River.....	S-RSF	A-H
Sparta.....	M	Impounding reservoir.....	S-RSF	A-H
Springfield***.....	M	Wells and Sangamon River.....		C
Streator.....	P	Illinois-Vermilion River.....	S-RSF	A-C
Tuscola.....	P	Wells.....		C
Warsaw.....	M	Mississippi River.....	S-RSF	A-H
Watertown State Hospital.....		Wells.....		C
Waukegan.....	M	Lake Michigan.....		H
Winnetka.....	M	Lake Michigan.....		C

S—Sedimentation. RSF—Rapid sand filter. SSF—Slow sand filter. A—Alum. L—Lime. I—Iron. N—Soda ash. C—Chlorine. H—Hypochlorite.

* Softening only.

** Iron removal.

*** Emergency.

**** Supplemental supply.

sewer system involves the question of the disposal of sewage, and though the pollution of streams is not always a health problem, yet it is a natural sequence to the installation of sewers if the sewage is not properly treated, and thus it is properly a function of the Department of Health to examine into and regulate the manner of construction of sewers and sewage-purification plants.

As in the case of water supplies, it is found easier to have a sewer system installed properly at the start than to bring about corrections or improvements to defective systems. Plans and specifications are, therefore, required to be submitted for review and approval in accordance with the rules of the department. Advice is given as to whether a combined or separate system will be the better for a municipality, and as to what treatment will be required to prevent objectionable stream pollution. Although the division endeavors to advise with municipalities in the installation of sewer systems, it does not attempt to undertake the engineering work but, as in the case of public water supplies, always urgently recommends that competent engineers be retained by municipalities. This activity on the part of the division has at times resulted in preventing installation of systems that would otherwise have been of poor design.

Several projects considered during the year have been delayed because of the high cost of material. During the fiscal year the following places have given consideration to the installation of sewer systems and have been visited and given assistance by this division: Barry, Chatsworth, Crystal Lake, Dallas City, Easton, ElPaso, Eureka, Fairbury, LaHarpe, Lemont, Mason City, McHenry, Mt. Carroll, Mt. Morris, Mt. Olive, New Holland, Peoria, Roodhouse and Venice.

PROPOSED IMPROVED SEWERAGE

Some sewer systems in the State require improvement or enlargement because of defective design when first installed, or because the municipalities have outgrown the original installations or the volume of sewage has so increased as to cause objectionable stream pollution. Some municipalities in the State have installed sewer systems piecemeal as occasion demanded, and sooner or later are forced to give consideration to comprehensive sewer systems. Sometimes these improvements can be brought about at nominal cost and, at other times, because of the failure to plan systems properly at the start, considerable expense is involved to correct past defects and to provide for a satisfactory new or improved system.

One of the greatest causes of unsatisfactory sewer systems, especially in the smaller municipalities, is the practice of installing a drainage system originally for storm drainage only, and then, from time to time, allowing house sewers to be connected thereto. Such practice often leads to stream pollution and to flooding of property by sewage-polluted waters.

The division has records of most of the sewer systems in the State and it is the intention to make these complete as opportunity permits. On the basis of these examination records, efforts are made to bring about improved sewer systems. During the past year the following places were visited relative to improved sewerage: Antioch, Bloomington, Chicago Heights, Decatur, DesPlaines, Elgin, Geneseo, Grays Lake, Highland Park, Jacksonville, Kankakee, Mattoon, Mendota, Mound City, Mount Vernon, Pontiac, Streator and Wheaton.

SEWAGE-TREATMENT PLANTS

The question of sewage-treatment plants is a part of proposed new systems or proposed improved systems, but is of such importance that it warrants special consideration. Improper disposal of sewage may be dangerous to health although more often it only indirectly affects health and is more in the nature of a nuisance. Improper disposal of sewage may also be destructive of fish life. The treatment or disposal of sewage, though not always a health problem, is so closely interwoven with health and sanitary conditions that the question of sewage treatment can more properly be handled by the State Department of Health, especially with its technical staff and laboratory facilities, than by any other State agency.

In the installation of new sewer systems, studies are made to ascertain what treatment will be necessary to prevent objectionable stream pollution and the best location for sewage-treatment plants. The consulting engineers for municipalities are cooperated with and the designs for sewage-treatment plants and the final plans and specifications are, in accordance with the rules of the department, submitted for review and approval. In this way stream pollution is often prevented.

It is often the case that tank treatment alone will be satisfactory when a sewer system is first installed, but that additional treatment will be necessary at a later date, when the volume of sewage has materially increased and, therefore, the division endeavors to see that the first installations are made so that additional treatment works can be added at minimum expense.

In those instances where sewer systems have already been installed and do not include sewage-treatment works and objectionable stream pollution prevails, examinations are made and the municipalities are advised as to what is necessary to remedy the conditions.

Experience has shown that there is a strong tendency among municipalities to neglect the operation of sewage-treatment plants. It is a common, fallacious idea that sewage-treatment works require little or no attention, and consequently they are neglected until objectionable conditions prevail because of odors from the plant or because of stream pollution. Some sewage-treatment plants have been so neglected that

they have become permanently damaged and can be put back into operating condition only at considerable expense.

The division makes inspections of existing sewage-treatment plants, to note their condition and to call the attention of local authorities to any apparent neglect. In pointing out defects in operation, the importance of municipalities engaging competent operators or retaining the engineers who designed the plants to make periodic inspections is emphasized.

The burden of constant control of sewage-treatment plants should not be borne by the State, but rather the municipalities should retain competent engineers to make sufficiently frequent examinations to insure proper operation. The State should, of course, supplement the work of these engineers and employees by periodic inspections of the plants at reasonable intervals to check their operation and give advice which can often be based upon the experiences at other treatment plants.

During the fiscal year, the following places were visited relative to existing sewer systems and the operation of existing sewage-treatment plants in addition to those places visited where enlargements or improvements were under consideration: Aledo, Arlington Heights, Ashton, Bushnell, Cambridge, Christopher, Downers Grove, Dwight, Elmhurst, Flossmoor, Great Lakes Naval Training Station, Greenville, Hoopeston, Kewanee, LaGrange, Lombard, Manteno, Neoga, Olney, Palatine, Pana, Pontiac, St. Charles and West Chicago.

STREAM POLLUTION

There are many cases of stream pollution in the State caused by untreated or inadequately treated sewage and industrial wastes. All cases of stream pollution are not seriously objectionable. Whether or not objectionable pollution prevails depends upon the use made of the water, the proximity of habitations, and the use made of the land bordering the water courses. In some cases, extreme pollution of water courses does not prove objectionable in any way, and in other cases even small pollution is very objectionable. Every problem of stream pollution must be solved in the light of local conditions.

Studies in connection with stream pollution have been carried on generally in cooperation with the Division of Waterways of the Department of Public Works and Buildings, which, under the law, has certain jurisdiction over pollution when such is caused by industrial wastes. At the present time, there is no law giving adequate jurisdiction to any State agency over stream pollution when caused by domestic sewage. The laws give riparian owners power to institute court proceedings and the division can always be called upon to testify at such hearings.

Because of the technical staff of the Division of Engineering and Sanitation and the laboratory equipment, this division is especially well qualified to carry on stream-pollution work and might properly, and

to the advantage and economy of the State, be given full authority over such problems. The sewage and waste discharged into streams have very little bearing upon the stream flow or stream channels or obstruction of water courses, but are important largely from the standpoint of health and nuisance. Moreover, the question of stream pollution is related to the installation of sewer systems, which directly or indirectly are problems for health authorities.

During the fiscal year, investigations of stream pollution were made at the following places: Blue Island, Charleston, Chicago Heights, Christopher, Dakota, Danville, Depue, DesPlaines, Downers Grove, Havana, Hoopeston, Pekin, Peoria, Rochelle, Round Lake and Stockton.

TREATMENT OF INDUSTRIAL WASTES AND SEWAGES

The division has continued to study methods of treatment of sewage and industrial wastes and has advised with municipal officials and industries as to the methods of such treatment in order to prevent or abate objectionable stream pollution. It is not considered the proper function of the department to prepare plans for treatment plants; but it is considered extremely desirable to give municipalities and industries the advantage of the experience the division has had in connection with examination of industrial wastes and sewage-treatment plants throughout the State and studies of current literature on the subject.

Pollution by industrial wastes also is frequently involved with pollution by domestic sewage. Often the industries are entirely willing to act to prevent objectionable stream pollution if they can be advised as to how to proceed. Treatment of industrial wastes is often a more difficult problem than treatment of domestic sewage, and the effect of industrial wastes on sewage when combined preceding treatment, is sometimes a rather complicated one. It would seem desirable to allow for an increase in the division in order to go into this work more thoroughly.

During the fiscal year visits have been made relative to treatment of industrial wastes to the following places: Ava, milk wastes; Dakota, creamery wastes; Elgin, test on sewage screen; Eureka, cannery wastes; Pekin, corn-products wastes; Rochelle, cannery, wool, and gas-plant wastes; Round Lake, creamery wastes; Stockton, cheese-factory wastes. and Washington, cannery wastes.

DRINKING WATER SUPPLIES FOR COMMON CARRIERS

The cooperative arrangement between the State Department of Public Health and the United States Public Health Service, perfected during the latter part of 1918, for the examination and certification of water supplies used on interstate common carriers has been continued. Under this arrangement, the department makes field examinations of all sources of water supplies used on interstate carriers and analyses of water from such sources. On the basis of these examinations and analyses,

recommendations are made to the United States Public Health Service as to whether or not the water supply should be certified or prohibited for use. It is expected that each source of supply will be examined once a year and analyses made twice a year or oftener. Although the cooperative work and the jurisdiction of the United States Public Health Service relates only to interstate carriers, the division has extended the work to cover also intrastate carriers.

This work has brought about improvement in many private sources of water supply from which water was obtained for common carriers and which had not been previously examined by this department. It has also been instrumental in forcibly bringing to the attention of public officials defects in public water supplies. The cooperation received from railroad and waterworks officials in this work has been extremely gratifying. In addition to the examination of the sources of supply and the making of analyses, attention has been given to the method of handling the water from the source to the car tanks. This is quite important for, although water may be safe at its source, it may readily be contaminated in the handling. This work has placed additional duties on the engineers of the division and increased the amount of laboratory work. There are 156 watering points now in use in 80 municipalities in the State. During the fiscal year 83 places, in which one or more watering points were located, were inspected and 693 samples were analyzed. The watering points examined during the year are located at the following places:

Alton.	Eldred.	North Chicago.
Anna.	Evanston.	Ottawa.
Aurora.	Flora.	Pana.
Beardstown.	Forrest.	Pekin.
Belleville.	Freeport.	Peoria.
Bement.	Galena.	Pinckneyville.
Bloomington.	Galesburg.	Pittsfield.
Brooklyn.	Gilman.	Pontiac.
Bureau.	Golconda.	Quincy.
Bush.	Grafton.	Rankin.
Calro.	Granville.	Rockford.
Carbondale.	Harvard.	Rock Island.
Carlinville.	Havana.	Roodhouse.
Champaign.	Highland Park.	Salem.
Charleston.	Highwood.	Savanna.
Chicago.	Hume.	Seneca.
Chillicothe.	Jacksonville.	Shawneetown.
Cissna Park.	Joliet.	Springfield.
Crystal Lake.	Kankakee.	Spring Valley.
Cypress.	Kempton.	Staunton.
Danville.	Marion.	Sterling.
Decatur.	Mendota.	Streator.
DeKalb.	Minonk.	Taylorville.
Dupo.	Momence.	Toluca.
Dwight.	Mounds.	West Chicago.
East Peoria.	Mt. Carmel.	Wheaton.
East St. Louis.	Mt. Vernon.	Zearing.
Effingham.	Murphysboro.	

The following list shows the common carrier water supplies certified, provisionally certified, or condemned during the fiscal year:

COMMON CARRIER WATER SUPPLIES

CERTIFIED

Beardstown (2).
Belleville.
Bement (a2).
Bloomington.
Bureau (2).
Bush (b).
Cairo.
Champaign (2).
Champaign (a)*.
Chicago (2).
Chillicothe.
Chillicothe (a).
Cissna Park.
Clinton (2).
Cypress (a).
DeKalb.
Dwight (2).
Forrest (a).

Freeport.
Galena.
Galesburg.
Gilman (2).
Golconda (c)**.
Haryard (a).
Havana (2).
Hume (a).
Joliet (2).
Joliet (a2).
Kankakee (2).
Kempton.
Mattoon (2).
Mendota.
Momence (2)**.
Mt. Vernon (2).
Murphysboro (2).
Ottawa (2).

Pana (a2).
Pekin (2).
Peoria (2).
Pontiac.
Quincy.
Rockford.
Rockford (a).
Rock Island (2).
Roodhouse (a).
Rossville (2).
Shawneetown (a2).
Spring Valley (2).
Streator (2).
Taylorville (a).
Urbana (2).
Villa Grove (2).
Wheaton.

PROVISIONAL CERTIFICATION

Anna.
Aurora.
Danville.
Decatur.
East St. Louis.
Effingham.

Eldred (a).
Freeport.
Golconda (c).
Granville (a).
Highwood.
Mounds.

Mt. Carmel.
Pittsfield (a).
Rankin (a)**.
Salem (d).
Seneca (a).
Toluca.

CONDEMNED

Bluffs (a).
Centralia (a).
Cypress (a).
Eldred (a).
Findley (a).
Flora.
Forrest (a).

Galesburg (a).
Grafton (a).
Jacksonville.
Minonk.
Momence.
Mt. Carmel (a).
Pana.

Pittsfield (a).
Rankin (a).
Salem (a)*.
Seneca (a).
Spring Valley (a).
Toluca (a).

N. B.—Water from public supply unless otherwise noted. a=private well.
b=condensed steam. c=cistern. d=distilled water. *=two different supplies.
**=certified after necessary changes. 2=supply certified twice during fiscal year.

SANITARY SURVEYS

The division has continued to cooperate with the Division of Surveys and Rural Hygiene in making sanitary surveys of municipalities. In such surveys this division makes examinations of public water supplies, sewerage conditions, street-cleaning equipment, organization, methods and results, and collection and disposal of municipal wastes, including garbage, ashes, and rubbish. The question of drainage and its relation to eradication of mosquito-breeding places is also considered. As a result of this work, reports are prepared descriptive of existing conditions and a general scheme for improving any defects is outlined which is serviceable for the city in carrying out improvements and in engaging competent engineers in connection with needed improvements.

During the fiscal year cooperative surveys have been made at Alton, East St. Louis, and Moline.

MUNICIPAL PLUMBING ORDINANCE

In accordance with section 5 of an act providing for the licensing of plumbers and supervision and inspection of plumbing, in force June 29, 1917, the division has continued to advise with municipalities in the preparation of the plumbing ordinance required by law. The plumbing

ordinance prepared by the division in 1917, to serve as a guide for municipalities in the preparation of such an ordinance, has been furnished municipalities and plumbers. Because of the press of other work it has not been possible to revise this ordinance which, though it is generally satisfactory, could be materially improved. It has not been possible actively to follow up this work and ascertain what municipalities have adopted the ordinance or what variations have been made in ordinances adopted.

It should not be a function of the State Department of Health to supervise plumbing work in municipalities, but it would seem highly proper for the State to make provision for this division to keep informed and give careful consideration to modern plumbing practice, to serve in an advisory capacity to municipalities and individuals, and to be called in in case of disagreement between plumbers and municipal officials. Increase in funds would permit the division to see that municipalities were complying with the law by the adoption of a suitable plumbing ordinance, its enforcement, of course, coming under the jurisdiction of local officials.

NUISANCE COMPLAINTS

During the fiscal year many letters were received complaining of nuisances and unsanitary conditions. These complaints covered a wide variety of subjects and are listed in the following tabulation:

CLASSIFIED NUISANCE COMPLAINTS

Alleged cause of nuisance.	Number of complaints.
Impure water supplies.....	4
Polluted wells	9
Iron in water.....	1
Water shortage	4
School water supply.....	1
Impure factory water.....	2
Mine water supply.....	6
Sewers	10
Sewage disposal	14
Cesspools	6
Toilet facilities	2
Privies	19
Defective drainage	23
Stream pollution	7
Ditch pollution	7
Defective plumbing	3
Corn wastes	1
Catsup-factory wastes	1
Insanitary restaurants and hotels.....	14
Insanitary buildings and dwellings.....	6
Insanitary factory	1
Stables and barns.....	4
Manure	2
Hitch racks	4
Feed lots	4
Hog pens	60
Foultry houses	3
Chicken yards	3
Meat markets	1
Slaughter houses	6
Stock yards	4
Cattle near habitations.....	2
Clder press	1

Spoiled meat	1
Tankage plants	3
Carcasses	9
Weeds	6
Junk yard	3
Dumps	8
Garbage and filth.....	16
Dust, smoke and fumes.....	11
Insapitary construction camps.....	1
Insanitary schools	5
Inadequate schools	1
Ventilation	3
Fire in peat marsh.....	1
Cuspidors	1
General insanitary conditions.....	16
Total	320

The number of nuisance complaints has materially increased over those received during the preceding year. The policy of handling these complaints has continued the same. Since, under the laws, the Department of Health has no jurisdiction over local nuisances and insanitary conditions unless they are responsible for an epidemic and local officials refuse to act, it is customary to refer the complaints to local officials who have full authority to declare what constitutes nuisances and take necessary action to have them abated. Consequently, when letters of complaint are received, the complainant is informed of the authority vested by law in the local officials and a letter is sent to the local officials stating that a complaint has been made, describing the character of the complaint, and requesting that an investigation be made, any necessary action be taken, and the State Department of Health informed as to the results of the investigation and action.

In many cases the conditions that are the subject of complaint had not been brought to the attention of the local officials and were corrected at once. In some cases, the local officials have delayed or neglected to take action but have cooperated in improving conditions upon receipt of the letter from the State Department of Health. In some cases the local officials neglect or are incompetent to enforce necessary improvements. In other cases there are no real bases for complaints and the complaints are more or less the result of neighborhood quarrels.

It would be impracticable and it would require a large traveling expense fund and corps of inspectors for the State to investigate all such nuisance complaints, and moreover, the majority of the complaints can be adequately handled by local officials when they are brought to their attention. Some of the complaints, however, involve conditions that require investigation by or assistance of trained sanitary engineers to guide municipal officials in dealing with the situation, and in such cases the assistance of this division is given. Many such investigations are made at the request of local officials for advice, so that they may properly handle the situation. During the fiscal year the following places were visited relative to nuisance investigations:

PLACES VISITED RELATIVE TO NUISANCES AND GENERAL SANITARY CONDITIONS

Place.	Cause of nuisance.
Augusta	Defective drainage and privies.
Bartonville	Drainage from coal mine.
Belleville	Garbage hog farm.
Carlinville	Dirty streets.
Caseyville	Garbage hog farm.
East Peoria	Insanitary conditions at railroad yards.
East St. Louis	Garbage hog farm.
Glen Ellyn	Improper drainage.
Herrin	General insanitary conditions.
Hillsboro	Improper sewage disposal.
Hoopeston	Fumes and dust from chemical works.
Hume	Insanitary conditions.
Kankakee	Garbage dump.
Kankakee	Rendering plant.
Litchfield	Stagnant pond.
New Baden	Improper sewage disposal.
Ottawa	Fumes and smoke from factory.
Pontiac	Hogs.
Rockford	Sewage from sanitarium.
Rushville	Wastes from product company.
Stonington	Improper drainage.
Tamms	Sanitary conditions of hotel.
Tiskilwa	General insanitary conditions.
Tolono	General insanitary conditions.
Valler	General insanitary conditions.
Ziegler	General insanitary conditions.
Zion City	Improper sewage disposal.

WATER-BORNE EPIDEMIOS

The division cooperates with the Division of Communicable Diseases when epidemics of disease occur which may be water-borne, such as typhoid fever and dysentery. The division also endeavors to bring about abandonment of interconnections between public water supplies of good quality and impure industrial supplies that might be the cause of water-borne diseases. During the year the division made or assisted in making investigations of epidemics at Bardolph, Bloomington, Joliet, Mt. Carmel, Peoria, and Ramsey.

The most important investigation of a water-borne epidemic, in which the division cooperated with the Division of Communicable Diseases, was the outbreak of typhoid fever which occurred among the employees at the shops of the Chicago & Alton Railroad at Bloomington. This epidemic comprised over 200 cases with 24 or more deaths. The inter-connection which was responsible for the epidemic was abandoned and a new water-supply distribution system installed, which system was examined by the division at the request of Chicago & Alton Railroad officials, railroad employees, and municipal officials.

TUBERCULOSIS SANATORIA

The division cooperates with the Division of Tuberculosis in the examination of sites and review of plans for county tuberculosis sanatoria, which sites and plans, according to the State law, must have the approval of the State Department of Public Health. The work of this division in this connection relates to water supplies, disposal of sewage, general drainage, and general sanitary conditions of surroundings. In some instances the availability of public water supplies and sewer systems

makes the problem a rather easy one, but in other instances separate water supplies must be developed and suitable means provided for disposal of the sewage.

During the fiscal year investigations were made and plans reviewed in connection with county tuberculosis sanatoria for Kane, Lee, McLean, and Tazewell Counties.

SANITARY INSPECTIONS OF SCHOOLS

The division has continued to make sanitary inspections of schools. Most of these inspections are made at the request of county superintendents of schools in accordance with the State law. As a result of the inspections reports are prepared, copies of which are sent to the county superintendent of schools, the State Superintendent of Public Instruction and, in some cases, to the local school authorities. These reports describe existing conditions and make specific recommendations for improvements when such are found desirable.

The investigations cover such items as (1) location and accessibility of school buildings; (2) character and suitability of school sites as regards area, general drainage, and surrounding conditions; (3) construction and adequacy of school buildings; (4) lighting; (5) heating; (6) ventilation; (7) toilet facilities; (8) water supply; (9) school furniture, and (10) interior decorations with reference to suitability of colors.

During the fiscal year, sanitary inspections of schools were made at the following places: Brookport, Clinton, Danville, Hume, Ladd, Manteno, Metropolis, Pontiac, Rockford, Shipman and Streator.

The sanitary inspection of school buildings is considered extremely important as insanitary conditions not only affect the health of the children, but improved sanitary conditions may be considered as an important item of training for the children. The children should be surrounded with the best of sanitary conditions in order that they may learn the advantages of such conditions, and this, in turn, will bring about improvement in general sanitary conditions at home. It would seem a desirable expenditure of money for the State to provide sufficient funds so that the State Department of Health could undertake on its own initiative, a study of all school buildings in the State instead of having to give consideration only to those that are brought to the attention of the department by county superintendents, or local school officials, or interested parents.

MUNICIPAL WASTE COLLECTION AND DISPOSAL

Studies of municipal waste collection and disposal and street cleaning are very important phases of sanitary engineering, but are less important from the standpoint of public health than the question of public water-supply and sewer systems. The division, therefore, has not actively undertaken such studies. The only places where such studies have so far

been made have been at Alton, East St. Louis, and Moline where the studies were part of the sanitary survey in cooperation with the Division of Surveys.

Waste collection and disposal and street cleaning in many municipalities are now given too little consideration and if the division were large enough to give proper consideration to this matter undoubtedly it would prove to be of great service to municipalities, not only in improving sanitary conditions but in bringing about more economical methods of doing such work.

MALARIA CONTROL BY MOSQUITO ERADICATION

The records of the Division of Vital Statistics show that malaria is quite a prevalent disease in certain parts of Illinois, especially in the southern portion of the State. Since it has been conclusively demonstrated that malaria is spread only by means of mosquitoes, the eradication of mosquitoes, by suitable drainage and the consequent elimination of breeding places, would reduce the number of cases of malaria and thereby effect a large economic saving to the State. Moreover, in some places, though malaria does not prevail, serious nuisances are caused by mosquitoes which tend to decrease usability and, therefore, the value of land. During the year, advice has been given by correspondence to several communities relative to mosquito eradication and inspections have been made at Litchfield. The staff of the division has not been adequate to undertake a survey of the State to define areas where mosquito eradication work would be desirable. Such a survey should be undertaken by the State.

SANITATION OF COMMON CARRIERS AND CONSTRUCTION CAMPS

The State Department of Health has now under consideration the adoption of a railway sanitary code, based upon the Railway Sanitary Code issued by the Committee on Health and Medical Relief of the United States Railroad Administration and approved with certain changes at the Conference of State and Provincial Health Authorities at Washington, D. C., in May, 1920. This code relates to sanitary conditions on common carriers, at railway stations, and at construction camps. It covers quite completely all matters that might affect the health of persons traveling on common carriers, using railway stations, or living in construction camps. Its adoption will place new duties upon this division and require an increase in staff to enforce it and advise with proper authorities in bringing about any necessary improvements.

INSPECTION OF SUMMER RESORTS

During the fiscal year, as in preceding years, owing to lack of personnel it has not been possible for the division to make inspections of all summer resorts at the beginning of the vacation season to insure that the water supply, sewerage, and general sanitary conditions are satisfac-

tory. This work would be extremely desirable because the summer resorts are visited by persons from all over the State and if persons become infected because of insanitary conditions at resorts, they may, on their return to their respective homes, serve as foci of infection for their communities. Because summer resorts are in use only a small portion of the year, there is a tendency for some owners and some persons visiting the resorts to neglect sanitary conditions. The buildings are often of a temporary character, and the water supply and sewerage conditions are frequently quite primitive. Since most of the summer resorts are outside of incorporated areas and thus not under the jurisdiction of any local health authorities, except the township officials, it should more than ever be the duty of the State to protect the health of the people by adequate inspection of such places. This work would require the attention of at least one man during the summer months.

SWIMMING POOLS AND BATHING BEACHES

The rapid increase in the number of swimming pools and bathing beaches is placing upon the division additional duties. The division is receiving requests from citizens for advice relative to the construction or operation of swimming pools and bathing beaches. It would seem proper for the State not to confine its attention to those pools and bathing beaches for the care of which advice is requested, but to undertake on its own part a study of all pools and bathing beaches similar to studies and investigations of public water supplies. To this end a circular letter has been sent out to all municipalities of 3,000 population and over and will be sent out to the remaining municipalities during the coming year. With the circular letters are sent blank forms which are to be filled in giving information about each pool.

It is hoped that the staff of the division may be increased so that the circular letters can be followed up by an inspection by a sanitary engineer of every pool and bathing beach in the State. Because of its laboratory facilities, the division is well qualified to carry on such work for field examinations of pools and bathing beaches as should be supplemented by analyses. Similar work is now being done in several other states and has been considered so important that a committee has been appointed by the American Public Health Association to study the question of swimming pools and bathing beaches in order that such may be standardized insofar as desirable and data collected which will be valuable to persons having supervision or control of pools and bathing beaches.

LABORATORY SERVICE

The laboratories of the Division of Engineering and Sanitation are maintained to make chemical and bacteriological examinations of water, sewage and industrial wastes. The work performed by the laboratory can be classified as follows: (1) Routine analyses of samples of water collected from existing water supplies with special emphasis on filtered

supplies or supplies of questionable character; (2) complete analyses of waters from proposed sources of supply to determine not only their sanitary quality but also their suitability for domestic and industrial use as regards mineral content; (3) microscopic examinations of water from public supplies where disagreeable tastes and odors are present or liable to occur; (4) analyses of all drinking water supplies used on common carriers; (5) examination of chemicals and sand used in water-filtration plants; (6) analyses of water from private wells, schools, etc.; (7) analyses of water from cisterns if used for drinking purposes; (8) analyses of samples of water from streams and rivers to indicate the presence and the degree of pollution; (9) analyses of raw sewage and effluents from sewage-treatment plants to determine the efficiency of the treatment plants and the extent to which the sewage or effluents will pollute the streams; (10) analyses of trade wastes to determine possibility and method of treatment and effect of their discharge into streams.

Analyses of water supplies, sewages, and trade wastes are made upon the initiative of the division and upon requests of waterworks and public officials and interested citizens and, in the case of private wells, upon requests of the owners or users of the wells. In reporting the results of the analyses of water supplies which are unfavorable, opinions are given as to the possible causes of the contamination and recommendations are made as to how contamination can be prevented. For water supplies, only those analytical determinations are made which are essential to show the quality of the water and time-consuming determinations that are of no value are omitted. For instance, a complete chemical analysis of water from a private dug well would be of little value, as the chemical content of the water may vary greatly with rains, but the determination of the sanitary quality by means of a few tests is of value and it is an opinion of the sanitary quality that the average person desires. Special tests and complete chemical and bacteriological analyses are made when they are deemed desirable.

The frequency of analyses of public water supplies depends upon the sources of the supplies and the possibility of their contamination. Special attention is given to those supplies where water-purification plants exist or the supplies are considered of doubtful quality. At the end of the fiscal year over half of the water-purification plants were under close analytical supervision, and arrangements are being made to enlarge this work.

Analyses are made of the common carrier water supplies at intervals of from one month to six months, depending upon their source and liability of contamination.

Analyses of private wells are made upon request, provided complete descriptions of the wells and surroundings are given on blank forms furnished for that purpose. This information about the wells is necessary in order to give proper interpretations of the analyses and opinions

as to possible causes of contamination. In some cases, the location and physical conditions of wells are sufficient to condemn them, and this information is then of more value than a single or even several analyses.

Analyses of water from polluted streams, sewages, effluents from sewage-treatment plants, and industrial wastes are made as occasion demands. More of this work should be undertaken upon the initiative of the division, especially in connection with studies of sewage-treatment plants, but the limited laboratory staff and size of laboratories has so far made it impossible. By increasing the amount of this work an improvement in the operation of sewage-treatment plants can be brought about and stream pollution decreased.

A special container for the shipment of samples of water by parcel post has been devised. Formerly all samples for bacteriological examination were shipped by express in containers that provided for packing the samples in ice. Experience showed that express offices were not always near or accessible to persons wishing analyses, especially of private wells, and that easier and more rapid service could be had by parcel post. These containers are sent out in the regular parcel post mail and returned with the sample of water by parcel post special delivery at a total mailing cost of 17 cents, or much less than would be the cost by express. Moreover, a saving is made in the cost of the larger and heavier containers required for express shipments. The results of analyses of the samples sent un-iced by parcel post have proved reliable.

During the fiscal year a total of 1,583 samples were analyzed in the laboratories, which is an increase of 55 per cent over the preceding year. Table XII shows the analyses classified as to source and by months. The greatest number of samples handled in any one month was 198 in October, 1919, and the lowest number was 66 in December, 1919. During December, 1919, and January, 1920, the number of samples that could be handled was much below the average because the position of assistant analyst was vacant. The number of requests for analyses is so rapidly increasing and the increased laboratory work that the division should undertake is so important that an increase in funds, laboratory staff, and laboratory space and equipment is imperative.

STATE HOUSE DRINKING WATER SUPPLY

The operation of the two pressure filters installed in the early part of 1918 in the laboratories of this division for the removal of turbidity and color from the municipal water supply has been continued. The municipal water supply is of satisfactory sanitary quality, but because of the presence of iron and manganese becomes at times turbid and unsatisfactory for drinking purposes. By the installation of pressure filters to overcome this difficulty, it was possible to use the municipal supply and to discontinue the purchase of bottled water by the State at a saving that has amounted to about \$4,000 a year, even allowing for

the cost of the filters and bottles. During this fiscal year 10,403 bottles were filled and distributed to the 84 water coolers throughout the Capitol Building. The decrease in the number of bottles of water used over the preceding year (12,961) is probably because the legislature was not in session.

TABLE XII—ANALYSIS MADE DURING THE FISCAL YEAR JULY, 1919-JUNE, 1920—
CLASSIFIED AS TO SOURCE AND BY MONTHS.

Month.	Supplies used on common carriers.		Other public supplies.	Private wells.*			**Miscellaneous.	Totals.
	Public supplies.	Private wells.		Safe.	Safe with alterations.	Unsafe.		
July.....	24	5	19	3	5	28	16	100
August.....	10	5	30	2	18	59	2	126
September.....	39	12	27	5	14	63	-----	166
October.....	82	21	23	1	20	46	5	198
November.....	49	17	42	5	15	10	17	155
December.....	18	14	6	2	6	6	8	58
January.....	19	4	18	1	7	7	10	66
February.....	41	12	29	1	6	8	5	102
March.....	69	18	41	2	10	14	5	157
April.....	51	12	15	3	13	15	2	111
May.....	59	18	48	10	11	17	4	167
June.....	73	23	23	4	18	20	11	177
Total.....	532	161	321	39	143	302	85	1,583

* Includes school wells, semi-public wells, and cisterns.

** Includes analyses of sewages, sewage effluents, ice, bottled waters, and chemicals.

The city of Springfield has under consideration the installation of an iron-removal plant that will eliminate the necessity of the operation of the filters by this division, but since the saving has amounted to about \$4,000 a year in addition to the cost of the filters it can be seen that their installation was an excellent investment.

EDUCATIONAL WORK

The educational work of the division consists of preparation of articles for publication in periodicals, bulletins, and newspapers, the making of public addresses on sanitary engineering and miscellaneous sanitary subjects, and preparation of an exhibit as a part of the exhibit of the department for the State Fair and county fairs.

Articles for publication must be such as to attract the interest of persons reading the respective publications and articles for newspapers must, of course, be somewhat brief and have news value. The majority of the lengthy articles have been prepared for publication in the monthly *Health News* issued by the department. Many of the articles for *Health News* are of value for permanent reference and additional copies of *Health News* are printed so as to be available for sending out in answer to requests for information on subjects covered by such articles.

Public addresses have been confined largely to informal talks before city councils, chambers of commerce, or other civic associations relative

to water supply and sewerage projects and general sanitary improvements.

During the fiscal year the following places were visited to give talks in addition to places where talks may have been given as a part of other work in connection with water-supply or sewerage projects: Champaign, Chicago, Decatur, Eureka, Litchfield, Moline, Mt. Morris, New Orleans, La., Pana, Princeton, Quincy, St. Louis, Mo., Virden.

A considerable amount of educational work is carried on by means of correspondence. Many letters are received requesting information relative to proper construction of wells, septic tanks, small sewerage installations, and general sanitary matters. In answering letters of complaint relative to nuisances, opportunity is also given to do educational work along sanitary lines.

MISCELLANEOUS INVESTIGATIONS AND SUMMARY.

In addition to the places listed in the preceding tabulations, miscellaneous investigations have been made at the following places: Bryant, imperfect drainage; Danville, garbage incinerator; Elgin sanitary conditions following tornado; Herrin, mine wash-water; Highland Park, bottled waters; Hinsdale, garbage incinerator; Joliet, housing conditions; Marengo, ice company well; Moline, factory fire systems; Naperville, ice supply; Pontiac, sewerage for county club; Princeton, proposed sanitary ordinance; Taylor Springs, water supply of American Zinc Company; Toledo, sanitary ordinance; Valier, mine wash-water.

The visits made and work done, other than laboratory work, during the fiscal year may be summarized in the following tabulation:

Visits made and reports prepared relative to:	
Proposed new water supplies.....	11
Proposed improved water supplies.....	15
Existing water supplies.....	171
Proposed new sewer systems.....	19
Proposed improved sewer systems.....	18
Sewage-treatment plants	24
Stream pollution	16
Treatment of industrial wastes.....	9
Common carrier water supplies.....	88
Sanitary surveys	3
Nuisances	27
Epidemics	6
County tuberculosis sanatoria.....	4
Sanitary condition of schools.....	11
Miscellaneous subjects	15
Talks, addresses and association meetings.....	14
Letters written, (approximately).....	3,200

RECOMMENDATIONS FOR FUTURE DEVELOPMENT AND LEGISLATION

The comparatively small funds appropriated for the division and the consequent small staff does not make it possible for the division to carry on, as thoroughly as would be desirable, the activities mentioned near the beginning of this report. In order to carry on in a thorough and satisfactory manner the activities of the division, the staff should be increased.

At the present time certain work which might properly be done by this division of the State Department of Health rather than by any other State agency is now handled in other State departments. All State work in connection with public water supplies should be handled by the State Department of Health and all analytical work in connection with public water supplies should be done in the laboratories of the State Department of Health. At the present time, considerable confusion is caused to waterworks and public officials because of the duplication of work done by the Department of Health and by other State agencies. A correction of these conditions can be brought about by a change in the Administrative Code at the next session of the legislature.

The question of stream pollution is rapidly becoming a more serious problem than has heretofore existed in Illinois. At the present time, work in connection with stream pollution is divided among State agencies and no State agency, nor all agencies combined, has sufficient authority by law to handle the problem properly. Stream pollution is largely a sanitary engineering problem and more improvement at much less expense can undoubtedly be brought about by granting the State Department of Health certain authority. The question is closely interwoven with sewer systems and thus directly or indirectly becomes a public health matter. At the next session of the legislature, the laws relating to stream pollution should be clarified and amplified and control placed under the State Department of Health with sufficient authority and funds to carry out the laws.

Rules adopted by the State Board of Health in 1916, relative to the approval of plans for proposed water-supply and sewerage projects have been productive of good results, but better work could be done if these rules were embodied in laws and the department given an increase in funds properly to carry out the provisions of the law.

The division is accumulating a considerable amount of information relative to water supplies and sewerage that would be of interest and value to engineers, city and waterworks officials and others and, therefore, funds should be made available for preparation of this material for publication.

DIVISION OF VITAL STATISTICS

SHELDON L. HOWARD, *Registrar*

With the admission of Illinois to the Federal Registration Area for Deaths, effective from January 1, 1918, and with its working force increased to twenty members through appropriations made by the Fifty-first General Assembly, the Division of Vital Statistics has directed its efforts, not only to increasing the degree of completeness of its birth and death records in point of number, but to perfecting a program which should enhance the value of each record from a legal, as well as from a statistical standpoint.

The organization of the division, found to be effective during the previous year in meeting the general requirements of the work, was continued on practically the same lines except for minor changes in the duties of individuals, made in recognition of the differences in ability and proficiency of various new and old employees and in view of the increased divisional personnel. It is believed that great improvement has been made, however, in the execution of work by the rearrangement of the office machinery in such manner as to permit the passing of certificates rapidly from desk to desk when found to be in acceptable form.

As a result of past experience, steps were taken to overcome the common failings on the part of local registrars and others concerned in the carrying out of the provisions of the law, according to the following general lines:

I. *Violations*.—All reports of violations of the State law received from local registrars or from other sources, are listed and made the subject of investigation by correspondence or by field agents. The results of these investigations are made a matter of record with memoranda as to whether or not the cases require prosecution or other drastic action. The records of these violations are kept at all times in convenient form for the use of the Director of the Department of Public Health. At the end of each month the lists of reported violations are prepared in quadruplicate to provide one copy for the director of the department, and working copies for the use of the registrar, the assistant registrar and the file clerk.

The average number of violations of the State law per month, reported during the fiscal year ending June 30, 1920, was 53, and a considerable portion of time of the assistant registrar and of the several field agents has been devoted to the investigation of these violations.

Incidentally, whenever field agents are delegated to investigations of violations of the law, they are advised to employ every opportunity to give added instruction to local registrars, and, in the investigation of complaints, they are instructed to weigh all cases with respect to the natural qualifications of the registrar and the question of wilful violations.

In the enforcement of the law, certain defects in the law itself have become apparent, and it is believed that entirely satisfactory registration cannot be obtained without several distinct changes in the statutes. Recognizing the weaknesses of the present law, particularly as it applies to the selection and status of local registrars, the State Department of Health has endeavored to attain its ends by education and persuasion rather than by prosecution and the imposing of penalties upon men whose natural qualifications have not fitted or prepared them for their duties.

II. *Delinquent Registrars.*—During the latter part of 1919, a daily record of receipts from local registrars was established whereby it was possible constantly to have available information as to all registrars failing to send in their returns promptly on the tenth day of each month, and to these delinquent registrars special notices have been sent as a matter of routine.

Lists of delinquent registrars are prepared for the information of the director of the department at the end of each month, and additional copies of these lists are made for the information of the registrar, the assistant registrar, the file clerk and for the several field agents. During the six months ending June 30, 1920, delinquencies on the part of local registrars had been noted to the number of 2,039, or an average of 340 delinquencies each month, making 22.7 per cent of the total number of local registrars generally delinquent.

The complete compilation of all delinquencies and the placing of delinquent lists in the hands of field agents and of all other persons concerned in complete registration, has kept constantly before them the shortcomings of the individual registrars for guidance in making personal inspections or in corresponding with the affected communities, while delinquent notices sent to registrars at the end of each month, together with personal investigations of field agents, have brought to light the more common misconceptions and misinterpretations of the law among registrars.

To overcome these misconceptions, there has been prepared a series of form letters designed to answer the more common questions of interpretation. These have been employed at a great saving in stenographic service. It has been found necessary to send these letters of additional instructions to about sixty registrars each month, indicating that approximately 20 per cent of the registrars have failed in the past to appreciate or intelligently understand the provisions of the law.

III. *Reports of Local Registrars.*—The habit on the part of many local registrars of transmitting to the division birth and death certificates daily or as frequently as they are received by them, has resulted in an unnecessary waste of postage and expenditure for clerical service, both on the part of the registrar and in the division office. Unnecessary wastage of effort has also resulted from misconception on the part of local registrars whereby copies of certificates intended for county clerks, have been transmitted to the division. Confusion has also been created by failure on the part of registrars to observe the geographic limits of their districts. In many instances certificates of deaths, births or stillbirths, belonging in another nearby jurisdiction, have been received without question by the local registrars, transmitted to the division and claim made for fees.

To overcome these errors which, trivial as they may seem, interfere materially with complete and satisfactory registration, the division has devoted itself within the past year to the preparation of form letters directing registrars to make but one transmittal each month and that on the tenth day of the month, as required by the department. Attention has been called to the fact that the Division of Vital Statistics should not receive copies of certificates intended for the county clerk, and a memorandum to county clerks has been prepared asking them to provide for the transfer of credit for registrar's fees in case certificates were received and transmitted by registrars outside their proper jurisdiction. The efforts of the division along these lines have resulted very satisfactorily.

IV. *Completion of Defective Birth Certificates.*—Although the character of birth certificates has been improved during the past year, it is estimated that fully 15 per cent of the certificates received at this time from the smaller cities and rural districts, fail to contain essential data. This is attributed to ignorance of the law or indifference on the part of parents, physicians and local registrars. In many instances the name of the child is lacking, rendering the certificate worthless so far as its future value to the child is concerned.

In every instance communications are forwarded to attending physicians and parents for the purpose of receiving more correct data, and a check record of this work, maintained during a period of several months, shows that at least thirty communications daily have been necessary.

This correspondence with physicians and parents for the purpose of completing birth certificates is in reality the assumption by the State Department of Health of a duty which should be performed by the local registrar, entailing considerable expense to the department and causing the loss of the services of at least one clerk in a staff which is already inadequate. It is believed that this condition can be overcome only by a

provision for the employment of local registrars who shall be more directly under the control of the State Department of Health.

V. *Defective Death Certificates.*—From a statistical standpoint it is essential that all certificates of death shall be correct before they can be tabulated. During the past year it has been found that approximately 10 per cent of the death certificates received by the division are defective in one or more essential detail. During the period of seven months, in which 30,313 deaths occurring in the State of Illinois outside of Chicago were handled, it was necessary to send out 2,925 letters to undertakers, local registrars and physicians for the purpose of making death records complete. In many instances communications forwarded to both undertakers and physicians have failed to produce a satisfactory response and it has been necessary to send further communications to lay informants or members of the family of the deceased.

A study of the sources of defective death records elicited the fact that many of them come from State and county institutions and from public and private hospitals. Consequently field agents for the division have been instructed to visit all public and private institutions for the treatment of the sick and to instruct the managing heads of these institutions to prepare, on the admission of the patient, a complete record containing all of the necessary statistical information. In obtaining more complete records from the State institutions, the division has received the thoroughgoing cooperation of the State Department of Public Welfare, the results being such that it will be possible to employ the methods now prevailing in State institutions as models for county institutions, and for public and private hospitals and sanatoria.

VI. *Medical Classification.*—The method employed by the division to secure more accurate information for medical and occupational classification of death records, was described at length in the Second Annual Report. During the past year the same method has been followed, with certain additional efforts for obtaining complete data in deaths ascribed to "pneumonia" or "broncho pneumonia," and otherwise unqualified, and for deaths attributed to "anemia," "asphyxiation," "burns," "convulsions" and "paresis."

The success attained in improving death records, so far as the cause of death is concerned, is indicated by the fact that during the year 1918, 3,000 transcripts of death certificates were returned by the United States Bureau of the Census for further information, while, for the year 1919, only 869 transcripts were returned. Of these, 600 were transcripts originating in the city of Chicago, and 269 from other sections of the State. For the six months ending June 30, 1920, no transcripts originating in the State, outside of Chicago, have been returned from Washington, and only 312 Chicago transcripts.

In addition to its routine work in classifying the certificates for the current year, the division has devoted all possible time to the classifica-

tion of death certificates received for the year 1916, the certificates for 1917 having already been completed. The division has also been engaged in the occupational classification for the years 1916, 1917 and 1918, in order that this work, which will probably be completed by July 1, 1921, may cover the entire period since the present law became effective.

VII. *Reports of Communicable Diseases.*—During the past year, reports of all deaths ascribed to reportable communicable disease, have been made daily to the Division of Communicable Diseases, while the reports of deaths attributed to venereal disease have been transmitted daily to the Division of Social Hygiene.

VIII. *Occupational Classification.*—With the attainment of a high degree of success in meeting the requirements of medical classification, the efforts of the classification section have been directed toward preparation of a proper standard of death certificates with regard to the feature of occupation, a most important feature from a statistical standpoint, and one to which many of the states have so far given scant attention, and which in Illinois has been almost entirely disregarded.

The progress made in securing complete occupational data is indicated by the fact that, while in January, 1920, it was necessary to refer back for correction one out of every sixteen certificates, conditions had improved during the succeeding three months so that correspondence was necessary in only one of every thirty-five certificates. With certificates received from the city of Chicago it was necessary in January to question one out of every thirteen certificates, while at the end of the fiscal year question was necessary in regard to Chicago certificates in only one out of eighty-seven.

IX. *Registration of Old Birth Reports.*—On account of the new importance attached to registration of births incidental to the World War, and incidental to the increased child labor legislation, there has developed a very great demand for certification of births occurring prior to the time the present act became effective. To meet this demand, blanks have been sent to all applicants with simple instructions as to meeting the requirements of the law and with further instructions to refer the application for certification to the county clerk to make certain that the original certificate of birth is on file with the county official.

X. *Coroner's Certificates of Death.*—On account of the custom prevailing on the part of physicians in the past of preparing certificates of death and presenting them directly to the county clerk, and the former custom on the part of county clerks of receiving these certificates from physicians without scrutinizing causes of death, and of the old custom on the part of physicians of preparing death certificates and forwarding them directly to the State Department of Health, it has been found that many certificates have been accepted from physicians which, on account of cause of death, should have been brought to the attention of coroners. This situation has lead to considerable confusion of more or less legal

moment and the necessary action on the part of the division in referring these activities back with the recommendation for investigation by the coroner, has provoked some resentment on the part of physicians who have erroneously signed the certificates, and considerable concern and distress on the part of members of the families of the deceased.

To obviate these errors, the division has prepared and widely distributed a complete list of "coroner's cases" and this, with the general distribution of a letter of instruction to the coroner, has resulted in very material improvement. In fact, during the past fiscal year, it is apparent that the coroners of the State have understood their duties under the present registration law much better than ever before, and there has been no instance of obstinate violation on the part of these county officials. There promises to be no difficulty in the future in securing thoroughgoing compliance of the law on the part of coroners, but it promises to be a much more difficult matter to fully instruct the 12,000 physicians of the State so that they will not encroach upon the province of the coroner. This difficulty is made the greater through the fact that there has been no recent authentic list of legally qualified physicians of Illinois available for reference. It appears highly desirable, regardless of the expense entailed, that the State Department of Health should be supplied with correct and addressographed lists of all coroners, local registrars and licensed physicians, so that a campaign of education in regard to requirements may be carried on during the coming year.

UNSATISFACTORY LOCAL REGISTRARS

The experiences of the past few years, supplemented with a careful study of a great mass of registration correspondence, leads to the conclusion that the township clerks of Illinois are frequently unqualified, educationally or otherwise, for the office of registrar of vital statistics. In addition to this, it has been ascertained that in a great many sections of the State, and particularly those sections having a large agricultural population, there is a distinct objection to the election of a resident of a city or village as township clerk, this office usually being given to residents of rural communities. Under these conditions, it becomes exceedingly difficult for physicians to present certificates of birth and for undertakers to present certificates of death with applications for burial permits. For this reason, there is a tendency on the part of physicians and undertakers to present their certificates to the most convenient registrar, regardless of geographical limitations of his jurisdiction, or to fail to present their certificates at all. As pointed out in previous reports of this division, it appears to be absolutely necessary that township clerks or other persons serving as local registrars shall be located in cities, towns or villages.

Another reason for the unsatisfactory character of local registrars is that the township clerks are elected for a period of only two years and

that with some 1,400 such officials in the State there are about 700 new clerks elected each year. These men come into office without the slightest knowledge of the requirements of registration, leading to constant errors and confusion. During the first half of 1920, there were 447 entirely inexperienced township clerks who had to be instructed in the more or less technical details of registration work.

This condition can only be overcome by the amendment of the vital statistics law, eliminating township clerks as registrars and providing for convenient places of registration in cities and villages, preferably of local registrars, regardless of their township office and more directly responsible to the State Department of Health.

A law enacted in the state of California provides that the local health official may act as registrar and that the state health department shall appoint a registrar for each rural primary district, whose term of office shall be four years and who will be removed forthwith for failure or neglect to perform his duties as prescribed by the statutes.

DIRECTORY OF LOCAL REGISTRARS

The edition of the directory and book of practical instruction, of local registrars, issued by the State Department of Health in 1918, designed for the use of physicians, local registrars and undertakers, is practically exhausted and should be reprinted. This book, with its instruction to local registrars, was unquestionably of material aid, but should be entirely rewritten to show the new registration district boundaries resulting from the combinations recently made, which have reduced the number of districts from 2,500 to approximately 1,500. The pages of instruction should also be revised to contain information found to be necessary in the experiences of the past two years. This directory and book of instructions should be placed in the hands of each of the 7,000 physicians outside of Chicago, and in the hands of all local registrars and all undertakers residing outside the city of Chicago.

Combinations of registration districts referred to above, based upon investigations made by field agents, have continued during the past fiscal year and will be continued in the future. In November, 1919, there were 1,557 registration districts as compared with 1,498 on June 30, 1920. These districts include 2,683 primary districts.

FIELD INVESTIGATIONS

One field agent allowed to the Division of Vital Statistics at the beginning of the fiscal year and an inspector designated by the Division of Social Hygiene for part-time employment, have been able to cover greater territories than in times past, and have carried out the following essential work: (a) surveys of State, county and private hospitals and institutions, for the purpose of obtaining more complete mortuary and birth data; (b) investigations relative to the combinations of the registration districts; (c) settlement of cases of dispute in cases of payment

of fees; (d) investigations of violations of the State law; (e) investigations of registrars persistently delinquent; (f) conferences with undertakers, physicians and local registrars, in case letters of inquiry produced no results.

From July 1, 1919, to the end of the fiscal year, these two representatives of the department have covered the registration districts in the following counties: Dr. F. C. Blandin—Adams, Boone, Carroll, Cass, Champaign, Cook, DeWitt, Ford, Fulton, Grundy, Hancock, Henry, Iroquois, Kankakee, Kendall, LaSalle, Lee, Livingston, Logan, Macon, Marshall, Mason, McDonough, McLean, Menard, Ogle, Peoria, Piatt, Putnam, Rock Island, Tazewell, Vermilion, Warren, Whiteside, Will. Winnebago and Woodford; Dr. H. T. Burnap—Bond, Calhoun, Christian, Clark, Clinton, Coles, Cook, Crawford, Cumberland, Douglas, Edgar, Effingham, Fayette, Greene, Jasper, Jefferson, Jersey, Macoupin, Madison, Marion, Moultrie, Pope, Sangamon, Shelby, St. Clair, Washington and Williamson.

As the result of these personal visits to interested communities and the forms of report exacted by field agents, the division now has on file very complete data relative to each county, giving valuable information as to the local condition prevailing. This compilation of reports conveys to the office force of the division an understanding of local difficulties and of the qualifications of registrars of the utmost value, preserving the information gleaned by individual field agents for the permanent use of the department.

INDEXING AND TABULATION

All death certificates from sections outside the city of Chicago for the year 1919 were indexed before the punching of the statistical cards, and the 1920 death certificates from the same area are now being similarly indexed. The mortality data for the fiscal year ending June 30, 1920, are shown in Table XIII.

On account of the great number of incomplete certificates received and the necessity for the employment of several typists in securing lacking data, birth and stillbirth certificates have not been indexed nor will this be practicable until additional filing space is provided, inasmuch as the present card files of the division are now taxed to capacity. Reports of births by counties are shown in Table XIV.

Late in June, 1919, the equipment for entire mechanical tabulation with punching machines, sorting machines and tabulators, was completed. With its increased number of employees, the division has been able during the past year to carry out complete mechanical tabulation according to the plan originally outlined. The deaths for the State, outside of Chicago, for the year 1919, have now been completely tabulated by county, month, color, and for all diseases in accordance with the Detailed International List of Causes of Death, and tabulation has

also been made of these details for all important cities and towns in the State. As a result, the division now has available for immediate reference, for the year 1919, the following information relative to each death certificate: registration district number, county, city and class of city, sex, color or race, conjugal condition, age at death, occupation, birthplace of deceased and of father and mother, date of death, cause of death, duration of illness and whether or not deceased was a resident or non-resident of the State, county or place where death occurred.

STATISTICAL REPORTS

During the fiscal year the division has been called upon repeatedly for various statistical reports, among which the following were of special interest:

Mortality record of Illinois, showing estimated population as of January 1, 1919, total deaths (exclusive of stillbirths) from all causes, and death rates per 1,000 of population, together with deaths from diseases of major sanitary importance by counties, and by important cities and towns.

United States Public Health Service, Annual Mortality Summary for Illinois, for year 1919.

Table of Comparison, Illinois Annual Mortality Summaries, for the years 1917, 1918 and 1919.

Base sheets of comparative statistics of the births and deaths occurring in Illinois during the years of 1917, 1918 and 1919, including rates for the State, city of Chicago, and Illinois, exclusive of Chicago, with deaths from diseases of major sanitary importance by counties and for the city of Chicago.

Reports to the Department of Education and Registration of deaths of physicians in the State, as shown by death certificates received, or from correspondence, also reports of persons acting as midwives, where certificates have shown their status to be questionable.

Deaths of children under five years of age, by counties, and by age groups, January to June inclusive, 1919, with total deaths from all causes and estimated population as of July 1, 1919.

Deaths from certain accidents, first six months of 1919.

Statistics of births and deaths in Illinois, for the years 1917, 1918 and 1919.

Deaths resulting from the puerperal state, January to June inclusive, 1919.

Total deaths, all causes, and death rates by months for Illinois, year of 1919.

Deaths of infants under five years of age, in Coles County, and Mattoon city, years of 1917, 1918, 1919 and first five months of 1920.

Deaths of infants under one year of age, and deaths of infants under two years of age, by months and by causes, in the city of Springfield and in Sangamon County, years of 1917 and 1919.

Deaths by months and by causes, and deaths of infants under five years of age by months, by causes and by age groups, Will County, for the year 1918.

Deaths of infants under one year of age, and deaths of infants under two years of age, by months and by causes, with total deaths (exclusive of stillbirths) from all causes in the city of East St. Louis, fiscal year 1917-1918.

Deaths from typhoid fever and death rates per 100,000 of population for Coles County, and Mattoon city, years of 1917, 1918, 1919 and first five months of 1920.

TABLE XIII—MORTALITY RECORD OF ILLINOIS, DEATHS, (EXCLUSIVE OF STILL-IMPORTANCE, BY COUNTIES, AND PRINCIPAL CITIES)

NOTE.—Numbers in parenthesis at heads of columns refer to titles in the Manual of the

Counties with important cities and towns.	Population mid-year 1919-1920.	(1-189) Deaths—all causes.	Death rate per 1,000 population.	Diseases of major sanitary importance.					
				(1) Typhoid Fever.	(4) Malaria.	(5) Smallpox.	(6) Measles.	(7) Scarlet Fever.	(8) Whooping Cough.
The State.....	2,485,096	81,150						134	444
Adams County.....	562,188	913						6	7
Quincy.....	55,878	518						5	2
Alexander County.....	26,080	453							
Carro.....	15,803	334							
Bond County.....	16,049	152							
Boone County.....	15,323	179	11.7	1					
Brown County.....	10,397	110	10.6					1	2
Bureau County.....	47,515	417	8.8				1	1	2
Calhoun County.....	8,510	84	9.8	2				1	11
Carroll County.....	18,035	163	10.1						1
Cass County.....	17,896	182	11.2	4			3		
Champaign County.....	65,965	624	11.1	3	1		1	5	
Urbana.....	10,830	159	15.5						2
Champaign.....	15,873	217	13.7	3				2	1
Christian County.....	25,309	332	10.8	2	1		3		11
Clark County.....	23,517	253	10.8	4			2	1	
Clay County.....	18,641	212	11.4						6
Clinton County.....	22,947	210	9.2	1			2	1	3
Coles County.....	35,108	454	12.9	10			4		1
Mattoon.....	13,449	181	13.5	3			3		
Cook County.....	2,053,017	39,465	12.9	38	9	1	129	194	209
Chicago.....	2,701,812	35,445	13.1	32	7	1	111	180	191
Chicago Heights.....	19,653	229	11.7	1			7	2	1
Cicero.....	44,985	347	7.7						1
Evanson.....	37,315	477	12.8					6	2
Maywood.....	18,072	106	5.8						
Oak Park.....	29,830	509	17.0		1			4	2
Blue Island.....	10,588	184	17.4	1					
Elmhurst.....	(2)								
.....	22,771	252	11.1	1	1		3		1
.....	14,281	134	9.4				1		2
.....	35,125	357	10.2	1	1		1		
.....	10,358	100	9.7						
.....	19,352	203	10.5				1		1
.....	20,074	218	10.8	3				3	1
.....	42,120	350	8.3	1			1	2	
.....	27,336	295	10.8	5		1		2	1
.....	10,049	125	12.4	1	3		4		1
.....	20,055	260	13.0	2	1		2	1	3
.....	28,083	322	11.5	9			8	1	1
.....	17,096	204	11.9	1				2	1
.....	22,100	631	19.7	16	1	1	41		8
.....	52,841	635	12.0	3			1		5
.....	10,928	182	16.7						2
.....	14,528	137	9.4	4	4				
.....	22,883	273	11.9	3	1	1		1	1
.....	18,580	180	10.2	1			1		
.....	16,227	153	9.3	4					3
.....	28,623	291	10.2	2					1
.....	7,015	61	8.7	3	4		2		
.....	19,724	78	8.0						1
.....	43,398	609	14.0	11			2	1	2
Keosauqua.....	16,085	266	16.5	9					
Iroquois County.....	34,841	293	8.4	2			4	1	2
Jackson County.....	37,091	493	13.3	12	6		7	2	1
Jasper County.....	18,157	182	8.4	3	1			2	
Jefferson County.....	30,073	376	12.5	6	1		2	1	
Mt. Vernon.....	9,815	157	15.6	4	1			1	
Jersey County.....	12,823	111	8.6	3					
JoDavies County.....	21,017	246	11.2				1		2
Johnson County.....	12,023	106	8.8	5	3		1		1

BIRTHS) FROM ALL CAUSES, AND FROM DISEASES OF MAJOR SANITARY AND TOWNS, JULY 1, 1919 TO JUNE 30, 1920 INCLUSIVE.

"International List of Causes of Deaths," Second Revision—Paris, 1909. (Detailed List.)

Diseases of major sanitary importance.

(9)	(10)	(23)	(28-29)	(30-35)	(90)	(61C)	(63D)	(91-92)	(100)	(37)	(38)
Diphtheria.	Influenza.	Rabies (In man) Hydrophobia.	Pulmonary Tuberculosis.	Tuberculosis other forms.	Chronic Bronchitis.	Cerebro- Spinal Fever.	Acute Anterior Poliomyelitis.	Pneumonia— All forms.	Septic Sore Throat.	Syphilis.	Gonococcus Infection.
1,061	5,661	3	5,956	785	407	95	101	8,118	178	463	58
8	59		55	6	4	1	2	69	3	4	1
4	27		31	6	2		1	47		1	1
9	24		69	8				37		9	6
3	19		55	6				22		9	4
2	25		13	1	3	1		6			
	20		8	1	2		1	18			
	22		11				1	12			
2	25		28	3	3		4	34	2	1	
3	5		7		2			6			
	5		6	2	2			13	1	1	
1	22		8	1				11		2	1
4	51		28	8		2	1	38	1	2	1
3	7		11	1				11	1		
1	15		11	3				15		1	2
1	36		19	5	2		1	38			
3	18		22	1	2		1	27	2	2	
	24		20	2			1	13			
4	12		12	2	4	2		19		3	
2	18		19	2	2	1		35	2	1	
1	6		10	2				18	3	2	
668	2,307	1	3,223	423	199	50	21	4,457	35	244	18
606	2,080	1	2,527	372	186	42	13	3,998	30	224	18
9	16		7	2			1	28			
22	24		25	4	1		2	39	3	1	
3	26		21	35	3	4	1	44	4	2	
1			6					3			
3	18		17	4	2			65	2		
2	17		7	3			1	16	3	2	
	22		14	2				21			
2	13		5			3		15		2	1
3	25		19	7	1		2	22	2		
1	10		5	2				7	2	2	2
1	14		12	1		1		18	2	1	
1	18		10	1				22	2		1
2	22		17	6	2	1	1	29		1	
2	11		21	4	3	1	1	11	1		
3	14		15	1			1	4			
4	17		18	5	2		2	24		2	
3	30		21	1	1		3	30	4		
2	24		11		1			15		1	
10	81		48	5	1	4	1	60	1	2	1
2	74		23	2	4		2	48	1	3	
	28		6	1				9			
9	9		11	5	1			13	1		
1	23		20		1		1	19		1	
2	18		7	1				17	1		
3	22		18	6			1	19			
2	27		15	3	2			19			
3	1		8	1				4			1
1	11		3		1			4	1		
1	74		22	2	5			70	4	2	
	42		9	2				40	1	2	
4	29		13	2	1			17	2		
12	67		33	3	3		2	30	2	5	
2	24		12		1			10	1		
6	42		35	5	1		1	43		2	
	15		17	3	1		1	16		2	
	11		6					7			
	17		11		2			23		1	
2	10		6		2			7	1		

TABLE XII.

Counties with important cities and towns.	Population mid-year 1919-1920.	(1-189) Deaths—all causes.	Death rate per 1,000 population.	Diseases of major sanitary importance.				
				(1) Typhoid Fever.	(4) Malaria.	(6) Measles.	(7) Scarlet Fever.	(8) Whooping Cough.
Kane County.....	29,499	1,363	13.7	3		1	1	
Aurora.....	38,888	609	16.0	1		1		
Elgin.....	27,431	483	16.9	8				
Kankakee County.....	44,940	739	16.4	5		2	1	
Kankakee.....	16,731	304	18.6	1		1		
Rendall County.....	110,777	1168	10.0				1	
Knox County.....	48,663	623	12.8	5	1	1		
Galesburg.....	23,834	377	16.8	4		1		
Lake County.....	74,286	896	12.0	19		8	4	
Waukegan.....	22,597	349	11.0	10		6		
LaSalle County.....	92,925	1,138	12.2	4	1	3	5	
LaSalle.....	13,060	189	14.6	2		2		
Ottawa.....	10,816	184	14.8					
Streator.....	14,779	261	17.0	1			4	
Lawrence County.....	28,694	200	7.0	9		4		
Lee County.....	27,760	331	11.9		1	2	2	
Livingston County.....	40,465	415	10.3	1		1	1	
Logan County.....	31,718	401	12.6	2		7	3	
Lincoln.....	11,884	243	20.5	1		6	2	
Macon County.....	66,175	811	12.4	3	1	9	3	
Decatur.....	13,818	638	14.5	3	1	7	2	
Macoupin County.....	57,274	477	8.3		1		1	
Madison County.....	106,895	1,269	11.9	9	5	9	5	
Alton.....	24,714	387	14.8	3	2	6	1	
Granite City.....	14,787	160	10.8		1	2	1	
Marion County.....	37,497	447	11.9	4	1	4		
Centralia.....	13,481	168	13.3	2		1		
Marshall County.....	14,760	157	10.6	1				
Mason County.....	16,634	178	10.7	4	1			
Massac County.....	15,267	206	13.5	6	2	1	2	
McDonough County.....	26,837	374	13.9	1				
McHenry County.....	33,164	386	11.6			3	4	
McLean County.....	68,165	912	13.4	13				
Bloomington.....	68,638	466	16.8	7				
Menard County.....	11,694	150	12.8					
Mercer County.....	13,800	186	9.8					
Monroe County.....	12,839	113	8.8	1		4		
Montgomery County.....	41,403	538	13.0	1		3	1	
Morgan County.....	33,567	766	22.8	4				
Jacksonville.....	15,713	690	36.9	3				
Moultrie County.....	14,630	157	10.7			2		
Ogle County.....	27,864	230	10.0			1	3	
Peoria County.....	111,704	1,772	15.9	5	3	6	14	
Peoria.....	76,181	1,146	15.1	4	2	6	10	
Perry County.....	24,303	302	12.4	2	3	8	1	
Piatt County.....	15,714	155	9.9	1		2	2	
Pike County.....	28,866	302	11.2	2			6	
Pope County.....	11,215	50	4.5					
Pulaski County.....	14,629	219	15.0		5	2		
Putnam County.....	10,325	66	6.3					
Randolph County.....	20,109	322	11.1	6	1	6		
Richland County.....	15,970	202	12.6		1		1	
Rock Island County.....	85,301	1,132	13.2	7		1	2	
Moline.....	30,709	398	13.0	4		1		
Rock Island.....	35,177	400	11.4	2		3	2	
Saline County.....	38,363	439	11.4	10	2	6		
Sangamon County.....	110,121	1,381	12.5	7	1	8	4	
Springfield.....	29,183	979	16.5	6		1	2	
Shuyler County.....	13,283	151	11.4	2				
Scott County.....	9,489	85	9.0					
Shelby County.....	29,001	297	10.0	1		1	3	
Stark County.....	10,006	84	8.3					
St. Clair County.....	151,490	1,529	10.1	7	4	23	4	
Bellerive.....	24,741	346	14.0	2	2	1		
East St. Louis.....	66,740	814	12.2	5	2	17	3	

—Continued.

Diseases of major sanitary importance.

(9)	(10)	(23)	(28-29)	(30-35)	(90)	(61C)	(63D)	(91-92)	(100)	(37)	(38)
Diphtheria.	Influenza.	Rabies (In man) Hydrophobia.	Pulmonary Tuberculosis.	Tuberculosis other forms.	Chronic Bronchitis.	Cerebro- Spinal Fever.	Acute Anterior Poliomyelitis.	Pneumonia— All forms.	Septic Sore Throat.	Syphilis.	Gonococcus Infection.
8	63		87	11	11	3	1	135	7	6	2
3	39		38	4	6	2	1	73	4		
1	9		31	3	4			42	2	5	2
7	18		86	4	4		1	59	5		1
2	10		11	3	1			15	1		1
	12		4	1		1		8			
3	38		38	5	3	1	1	76	7	3	1
2	21		13	5	3		1	54	4	1	1
5	118		54	14	1	1	2	89	3	7	
	17		14	1				23	1	1	
5	116		74	7	3			82	2	4	
	18		12	2				19		3	
	11		10	1				12			
4	44		7	1	2			12	1	1	
2	18		13	5	2	1		13			
2	28		11	2	4	1	1	21	1		
4	36		9	6	1		2	38	1	2	
6	78		65	6	1		1	31		2	
5	45		55	5	1		1	25		2	
8	71		54	3	3	1		47	2	6	2
6	54		44	3	2	1		38	2	6	2
7	34		23	6	1		3	45	2	1	
27	79		97	14	5	2	1	127	2	2	1
2	22		24	5	2			40			
3	11		11	2	1			10	1	5	1
8	28		38	5	3	1	2	45	1	3	
1	7		16	2		1	1	8	1		
1	13		5		1		1	12	1		
1	17		9	2	1		1	10		2	
4	4		18	1	2			19		2	
	24		11	1				24	5	6	
4	25		16	7	3			41	2		
6	79	1	39	12	2	1	1	62	2	5	3
2	36		16	2	1	1	1	42		2	1
3	13		11	1				12	1	1	
	23		11	1	1		2	14	1		
	4		8					11			
4	60		27	3	2		1	36		3	1
2	49		46	6	1			91	1	3	1
1	22		37	6				68		3	1
1	15		12	1	1			13	1		
	24		17	1				30		1	
20	103		159	10	5	2	3	150	5	20	3
16	68		63	5	3	2	2	104	1	20	3
2	32		17	3	3			12			
	12		13	1	1			13			
3	25		31	2		2		20	2	1	
1	3		4					1		1	
3	20		33	1			1	18	1	3	1
3	6		3	1			1	7		1	
	23		27	4	2			37	4	1	
2	18		16	2				12	1		
6	49		67	11	6	3	3	115	3	9	1
5	17		15	3	2	3	2	43	2	4	
1	20		33	3	3			29		1	
12	65		34	5	1		2	27	1	4	
18	76		105	9	11	1	3	138	5	16	1
9	47		37	6	8	1	3	109	3	13	1
5	12		11	1			1	6	1		
	5		3					7			
	34		16	1	5			31		1	
	11		3					3			
19	69		94	11	10	2	3	128	1	11	2
11	21		23	4	3			21		1	
8	48		46	7	7	1	1	84	1	9	2

TABLE XIII

Counties with important cities and towns.	Population mid-year 1919-1920.	(1-189) Deaths—all causes.	Death rate per 1,000 population.	Diseases of major sanitary importance.					
				(1) Typhoid Fever.	(4) Malaria.	(5) Smallpox.	(6) Measles.	(7) Scarlet Fever.	(8) Whooping Cough.
Stephenson County.....	¹ 39,773	555	14.0	1	—	—	—	6	3
Freeport.....	² 19,669	389	19.8	1	—	—	—	6	—
Tazewell County.....	³ 34,814	433	12.4	2	2	—	—	1	3
Pekin.....	⁴ 12,913	189	10.8	—	1	—	—	—	5
Union County.....	⁵ 21,856	396	18.1	7	4	—	1	—	—
Vermilion County.....	⁶ 86,162	1,280	14.9	5	1	—	21	4	3
Danville.....	⁷ 33,750	563	16.7	2	1	—	6	1	4
Wabash County.....	⁸ 17,201	180	10.5	4	3	—	5	2	—
Warren County.....	⁹ 23,456	292	12.4	1	—	1	—	—	—
Monmouth.....	¹⁰ 8,116	164	20.2	1	—	1	—	—	—
Washington County.....	¹¹ 18,759	150	8.0	3	1	1	1	—	1
Wayne County.....	¹² 25,697	205	8.0	3	1	—	—	—	1
White County.....	¹³ 23,052	261	11.3	5	1	—	1	—	1
Whiteside County.....	¹⁴ 36,174	438	12.1	—	—	—	6	1	1
Will County.....	¹⁵ 92,875	1,107	12.0	13	—	—	4	2	1
Joliet.....	¹⁶ 38,372	481	12.6	5	—	—	3	2	1
Williamson County.....	¹⁷ 62,105	765	12.3	14	6	—	18	2	7
Winnebago.....	¹⁸ 90,929	989	10.9	1	—	—	2	3	4
Rockford.....	¹⁹ 66,651	776	11.8	—	—	—	2	3	4
Woodford County.....	²⁰ 20,506	180	8.8	—	—	—	—	—	—
County total.....	(4)	81,159	—	386	107	8	420	324	444

¹ Population April 15, 1910: Decrease between 1900 and 1910; no estimate as of January 1, 1920 made. No announcement of Bureau of Census enumerated population, January 1, 1920 received.

² Based on population as estimated by the Bureau of the Census as of July 1, 1917; decrease between estimate of 1916 and 1917; no estimate as of January 1, 1920 made. No announcement of Bureau of Census enumerated population, January 1, 1920 received.

³ Major portion of Elgin City lies within Kane County. See Elgin City, Kane County, for Death Rate covering entire City.

⁴ See Bureau of Census announced enumerated population, January 1, 1920 for State (subject to correction), page 1.

⁵ Bureau of Census announced enumerated population, January 1, 1920—subject to revision.

⁶ Estimated population as of January 1, 1920; no announcement of Bureau of Census enumerated population January 1, 1920 received.

—Concluded.

Diseases of major sanitary importance.											
(9)	(10)	(28)	(28-29)	(30-35)	(90)	(61C)	(63D)	(91-92)	(100)	(37)	(38)
Diphtheria.	Influenza.	Rabies (In man) Hydrophobia.	Pulmonary Tuberculosis.	Tuberculosis other forms.	Chronic Bronchitis.	Cerebro- Spinal Fever.	Acute Anterior Polio-myelitis.	Pneumonia— All forms.	Septic Sore Throat.	Syphilis.	Gonococcus Infection.
4	54		18	9	1			28	4	0	
4	43		11	7				22	2	0	
1	31		25	3	4	1	3	104		5	
1	6		8	1	2		2	17		2	
4	22		40	3	1	1	1	33	1	2	
1	67		67	11	10			90	4	12	5
1	36		28	7	7			48	3	5	5
1	10		12	1	3			7	1		
	27		16	3	3			28	4	2	
	12		11	2	2			18	1	1	
1	7		5	1	2			14			
2	26		16	4	2			23	3		
4	30		25	3	2		1	26			
1	45		18	5	4	1	4	38	1	2	
13	60		69	12	5	1		112	4	7	
4	23		18	4	1			47	2	3	
16	103	1	53	6	2	1	2	68	4	3	
11	98		65	7	6		1	118	5	4	2
9	76		66	6	5		1	96	4	4	2
	10		6	2	2			11	4	1	
1,061	5,661	3	5,956	785	407	95	101	8,078	178	463	58

TABLE XIV—REPORTED BIRTHS IN ILLINOIS, BY COUNTIES AND PRINCIPAL CITIES AND TOWNS, JULY 1, 1919 TO JUNE 30, 1920, INCLUSIVE.

Counties with important cities and towns.	Total July 1, 1919 to June 30, 1920 inclusive.	Counties with important cities and towns.	Total July 1, 1919 to June 30, 1920 inclusive.
The State.....	114,678	Lawrence County.....	345
Adams County.....	1,027	Lee County.....	377
Quincy.....	633	Livingston County.....	813
Alexander County.....	372	Logan County.....	402
Carro.....	208	Lincoln.....	100
Bond County.....	203	Macon County.....	1,400
Boone County.....	212	Decatur.....	1,000
Brown County.....	150	Macoupin County.....	1,132
Bureau County.....	783	Madison County.....	2,327
Calhoun County.....	187	Alton.....	100
Carroll County.....	230	Granite City.....	100
Cass County.....	343	Marion County.....	800
Champaign County.....	1,171	Centralia.....	100
Champaign.....	287	Marshall County.....	100
Urbana.....	181	Mason County.....	100
Christian County.....	680	Massac County.....	100
Clark County.....	366	McDonough County.....	400
Clay County.....	372	McHenry County.....	400
Clinton County.....	555	McLean County.....	1,200
Coles County.....	739	Bloomington.....	1,200
Mattoon.....	280	Menard County.....	241
Cook County.....	53,927	Mercer County.....	300
Chicago.....	47,876	Monroe County.....	200
Chicago Heights.....	468	Montgomery County.....	700
Cicero.....	869	Morgan County.....	300
.....	866	Jacksonville.....	100
.....	160	Moultrie County.....	100
.....	1,060	Ogle County.....	400
.....	238	Peoria County.....	1,457
.....	303	Peoria.....	1,000
..... ty.....	278	Perry County.....	400
.....	507	Piatt County.....	200
.....	100	Pike County.....	400
.....	383	Pope County.....	50
.....	482	Pulaski County.....	200
.....	506	Putnam County.....	135
Edgar County.....	456	Randolph County.....	300
Edwards County.....	141	Richland County.....	200
Effingham County.....	351	Rock Island County.....	1,700
Fayette County.....	472	Moline.....	600
Ford County.....	338	Rock Island.....	100
Franklin County.....	692	Saline County.....	600
Fulton County.....	858	Sangamon County.....	1,800
Canton.....	203	Springfield.....	1,000
Gallatin County.....	287	Schuyler County.....	200
Greene County.....	434	Scott County.....	50
Grundy County.....	287	Shelby County.....	500
Hamilton County.....	222	Stark County.....	174
Hancock County.....	444	St. Clair County.....	2,600
Hardin County.....	152	Bellefonte.....	100
Henderson County.....	140	East St. Louis.....	1,300
Henry County.....	815	Stephenson County.....	700
Keokuk.....	358	Freeport.....	100
Iroquois County.....	671	Tazewell County.....	600
Jackson County.....	755	Pekin.....	200
Jasper County.....	323	Union County.....	300
Jefferson County.....	473	Vermilion County.....	1,600
Mt. Vernon.....	180	Danville.....	100
Jersey County.....	253	Wabash County.....	250
Jo Daviess County.....	344	Warren County.....	300
Johnson County.....	137	Monmouth.....	100
Kane County.....	1,694	Washington County.....	310
Aurora.....	842	Wayne County.....	300
Elgin.....	421	White County.....	350
Kankakee County.....	691	Whiteland County.....	650
Kankakee.....	248	Will County.....	1,600
Kendall County.....	151	Joliet.....	500
Knox County.....	742	Williamson County.....	1,100
Galesburg.....	438	Winnebago County.....	1,500
Lake County.....	1,166	Rockford.....	1,800
Waukegan.....	380	Woodford County.....	400
LaSalle County.....	1,672	Total all counties.....	114,678
LaSalle.....	349		
Ottawa.....	207		
Streator.....	316		

* No births reported for this period for the two wards of Elgin City in Cook County

FISCAL YEAR BIRTH SUMMARY.

Year.	Population January 1.	Total births.	Birth rate per 1,000 population.
1918-1919.....	6,359,102	106,457	16.7
1919-1920.....	6,485,098	114,678	17.7

Births actually reported, year of 1919, with estimated "normal" for reports, and delinquencies estimated for all counties of Illinois, based on population as of July 1, 1919.

Typhoid fever death rates for Illinois, years of 1905-1919, inclusive.

Deaths from pulmonary tuberculosis among the bituminous coal miners of Illinois, years of 1916, 1917 and 1918.

In addition to these special reports, the division has been called upon for rate tables and comparisons in order to satisfy the constantly increased number of requests from editors, newspaper correspondents, trade papers, collegiate instructors and other teachers, public health nurses and other interested persons.

As a result of its final success in getting the records of 1916 into proper form, the division is able to present herewith (see Table XV) for the first time comparative statistics of births and deaths for the State of Illinois for the years 1916, 1917, 1918 and 1919, the four years which have passed since the present vital statistics law became effective.

COOPERATION OF OUTSIDE ORGANIZATION

As has been the custom in previous years, the division has assisted various local and civic organizations in improving birth and death registration in their localities, and has supplied data on infant mortality to public health nurses, child welfare associations and others interested in the betterment of conditions of early life.

The files of the division have also been made available for the use of several officers of the United States Public Health Service, who, in the course of their surveys of industrial conditions in various parts of the State, found it necessary to check their records with the death certificates on file from these points.

MISSIONARY WORK

While much good has been accomplished in securing more complete registration of births and deaths by the activities of extra-governmental medical and social organizations, such activities have usually been sporadic in character, and consequently it has been found that the department must rely upon its own resources in carrying out a continuous campaign of education and stimulation.

During the past fiscal year, the Director of the State Department of Health has placed at the disposal of the Division of Vital Statistics the part-time services of the several district health officers of the department to be devoted to the checking up of local registrars and particularly those disposed to be negligent or tardy in the performance of their duties.

TABLE XV—STATISTICS OF BIRTHS AND DEATHS FOR THE STATE OF ILLINOIS—THE YEARS OF 1916, 1917, 1918 AND 1919 COMPARED.

	1916			1917			1918			1919		
	State total.	Chicago.	State exclusive of Chicago.	State total.	Chicago.	State exclusive of Chicago.	State total.	Chicago.	State exclusive of Chicago.	State total.	Chicago.	State exclusive of Chicago.
Population estimated—July 1.....	6,152,257	2,497,722	3,654,535	6,234,995	2,547,201	3,687,794	6,317,733	2,596,681	3,721,052	6,442,790	2,675,926	3,766,864
Births.	114,298	47,769	66,529	108,896	49,556	59,340	117,055	49,707	67,348	108,094	44,051	64,043
Birth rate per 1,000 of population.....	18.6	19.1	18.2	17.4	19.4	16.0	18.5	19.1	18.1	16.8	16.5	17.0
Deaths—total from all causes.....	81,345	36,304	45,041	86,231	38,055	48,176	103,138	44,605	58,533	77,394	33,494	43,890
Death rate per 1,000 of population.....	13.2	14.5	12.3	13.8	14.9	13.0	16.3	17.1	15.7	12.0	12.5	11.7

The division placed in the hands of the district health officers lists of the delinquent local registrars located in their several districts, with the result that delayed reports were cleared up more effectively than ever before.

It is believed that a continuation of the plan of including in the duties of the district health officers a general supervision over local registrars in their districts, will have a tremendous effect upon birth and death registration in Illinois, without imposing any special burden upon the district health officers.

In addition to the very voluminous correspondence through which the division has endeavored to instruct local registrars and to advise physicians, coroners and undertakers as to the requirement of the law, the assistant registrar of vital statistics and other representatives of the division have made addresses at meetings of undertakers and coroners, held at different points in the State, while a district health officer assigned to the division has presented a paper on "vital statistics" before the Illinois Academy of Science at its annual meeting at Danville, and addressed chautauqua meetings at Mt. Zion and Avon on the importance of complete birth registration.

The staff of the division has encouraged the visits of local registrars, district health officers, physicians and other persons at the offices at Springfield, and have endeavored to make these visits a source of instruction and a means of closer cooperation.

COMPENSATION OF LOCAL REGISTRARS

The Illinois law provides that local registrars shall receive from the county clerk, on statement issued by the State Department of Health, fees for the registration of births and deaths at the rate of 25 cents for each certificate of birth, stillbirth or death, when the total number for the year is less than 5,000.

While the fee is small, the registrars regard it as very important, since they are required for this compensation to make twelve monthly reports to the State Department of Health and twelve monthly reports to the county clerk annually and to submit each annual report to the Department of Health and to the county clerk at their own expense, besides being required to make a complete monthly record of all certificates for their own offices.

The experiences of the past four years under the present law have shown that in order to have complete and proper registration and regular reports from each of the 1,500 districts, the registrars must be made to understand that the Department of Health is concerned in having fees paid promptly at the close of each calendar year. To this end, an earnest effort is being made to have all record of fees for the year 1920 ready at the earliest possible moment, so that as far as possible, the fees may be paid on January 10, 1921. No appropriation was made by the County

Board of Commissioners of Cook County for the payment of fees due the more than 80 registrars residing in that county, until 1919, and at that time there were fees due to these registrars for the years 1916 to 1918 inclusive, while the only appropriation made was understood to be applicable in payment for birth reports only.

Because of vexatious delays on the part of the Cook County board, the registrars of births and deaths in the city of Chicago and outside in the county, were seriously handicapped.

As a result of persistent appeals made through the office of the Attorney General, it is understood that there will now be no delay in the payment of fees to the registrars of Cook County and it is likely that the registration service will be better in the future.

BIRTH REGISTRATION

Engraved certificates of registration of births which have been furnished by the division to the parents of all children whose births have been properly registered, have proved of great aid in proving the accuracy of birth records as well as increasing the number of these records. The registration of births in Illinois, however, is not yet satisfactory. Approximately 15 per cent of the certificates received by the department are incomplete. This means that approximately 16,000 incomplete reports are received each year requiring 70 letters to be written on each of the 280 working days of the year. This clerical service, the magnitude of which was not appreciated in providing for the personnel of the past fiscal year, will require the full time of at least two additional typists for the fiscal year beginning July 1, 1920.

RECOMMENDATIONS

The experiences of the past fiscal year have indicated conclusively the acute need of additional equipment, particularly certificate files, correspondence files, card files, maps and dictionaries. Without the addition of these files the proper and orderly development of the division's records will be practically impossible. The division also needs suitable calculating machines for the preparation of statistical data.

It is suggested that section 4 of the present registration law should be amended to eliminate all township clerks as registrars, whether by providing for compulsory combination of all townships with important cities or villages in all townships, and constituting the county or village clerk as registrar or by eliminating all town clerks of all cities and villages and providing for the appointment of local registrars of each district by the Department of Public Health.

It is also suggested that section 18 of the registration law be amended so as to eliminate as part of the duty of the local registrars the requirement to send copies of birth and death records to county clerks and to have the law provide that such copy shall be made and forwarded to the county clerks by the Division of Vital Statistics.

Inasmuch as it has been found that many of the original certificates forwarded by local registrars are faulty and deficient in character, and require extensive correction in the Division of Vital Statistics, the records in the hands of the county clerks can never be satisfactory so long as they are made up largely of these faulty certificates, but could be made complete and satisfactory if the county clerks had in their possession copies of certificates corrected by the Division of Vital Statistics.

DIVISION OF CHILD HYGIENE AND PUBLIC HEALTH NURSING

DR. C. W. EAST, *Chief*

The Division of Child Hygiene and Public Health Nursing of the State Department of Public Health divides its activities into two principal divisions, the first of which is devoted to the development of activities for the conservation of child life and the second, to the establishment and general supervision of public nursing service throughout the State of Illinois.

The first organized child welfare work of the State Department of Public Health was begun a number of years ago in the establishment of clinics for the reeducation of crippled children following a very general prevalence of anterior poliomyelitis throughout the nation. This prevalence of infantile paralysis caused a searching investigation to be made to locate children crippled by this disease when the true nature of the illness had not been recognized. The results were such as to justify the establishment of a definite clinical service which has been maintained and expanded since that time and which has remained one of the important functions of the Division of Child Hygiene and Public Health Nursing in the State Department of Public Health as created under the Civil Administrative Code. This work for crippled children has progressed so satisfactorily during the past fiscal year that the demand for service has exceeded the ability of the division to meet all needs. This work will be dealt with in another section of this report.

COOPERATIVE WORK

The division has responded repeatedly to requests from other divisions for assistance and this is especially true of the nursing staff. During December, 1919, and January, 1920, in addition to their own work, the nurses assisted in a comprehensive survey of the city of Alton conducted by the Division of Surveys and Rural Hygiene. They also assisted the Division of Tuberculosis in an intensive survey and clinical work at the same place which featured the last week of the survey.

STATE SURVEY OF PUBLIC HEALTH NURSING SERVICE

During the year, steps were taken to coordinate the nursing services which have been established under the auspices of the Illinois Tuberculosis Association, the American Red Cross, and other agencies under the general leadership of the State Department of Public Health. This

cooperative work required a careful study of the existing nursing agencies. A survey of nursing service was consequently undertaken in November, 1919, and the register of nursing service has been kept corrected up to the time that these pages are written. The extent of nursing service from November 1, 1919, to June 30, 1920, is shown in the accompanying table. (See Table XVI.)

TABLE XVI—REPORT OF PUBLIC HEALTH NURSING, NOVEMBER 1, 1919-JUNE 30, 1920

1. Public health nursing in Illinois. (Cook County not included.)	
Number of counties with some form of public health nursing.....	60
Number of counties having rural public health nursing.....	49
Total number of organizations employing public health nurses.....	141
Tuberculosis	40
American Red Cross.....	29
General services	16
Boards of education.....	40
Industries	9
Child welfare	7
(26 organizations are doing some form of child welfare work in addition to other work.)	
2. Public health nurses in Illinois. (Cook County not included.)	
Total number of public health nurses.....	199
Tuberculosis	44
American Red Cross.....	38
General	49
School	51
Industrial	10
Child welfare	7
3. Visits.	
Number of counties in State visited.....	36
Number of cities in State visited.....	49
Number of visits to child welfare stations.....	12
Number of visits to orthopedic stations.....	5
Number of visits to tuberculosis stations.....	7
Number of visits to psychopathic stations.....	1
Number of visits to dental stations.....	2
Number of visits to eye clinic stations.....	6
Total number of visits.....	70
4. Addresses.	
Talks given to nurses.....	28
Talks given to other groups.....	17
Total number	45
5. Attendance at association meetings.	
National	5
State and local.....	6
Total number of days in attendance.....	36
6. Number of days away from Springfield.....	131
7. Detail information on file in office.	

ETTA LEE GOUDY, R. N. (Mo.)
State Supervisor, Public Health Nursing.

The nurses of the staff have also visited various local nursing services for purposes of observation and to afford advice and encouragement to local workers. In almost all instances these visits were especially invited. There is no doubt as to the value of this kind of supervision on the part of the State Department of Public Health.

The establishment of new services has usually been attended by the help of this division and in many cases, the preparatory work for such establishment has been initiated by us. This part of our work will continue as an important function under the cooperative working agreement which, by consent of all participating agencies, places the general supervision of public nursing service in the hands of the State.

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During the year, steps were taken to coordinate the nursing services which have been established under the auspices of the Illinois Tuberculosis Association, the American Red Cross, and other agencies under the general leadership of the State Department of Public Health. This

cooperative work required a careful study of the agencies. A survey of nursing service was conducted in November, 1919, and the register of nursing service corrected up to the time that these pages are printed. The nursing service from November 1, 1919, to June 30, 1920, is given in the accompanying table. (See Table XVI.)

TABLE XVI—REPORT OF PUBLIC HEALTH NURSES
JUNE 30, 1920

1. Public health nursing in Illinois. (Cook County included.)	
Number of counties with some form of public health nursing	29
Number of counties having rural public health nursing	10
Total number of organizations employing public health nurses	126
Tuberculosis	10
American Red Cross	10
General services	10
Boards of education	10
Industries	10
Child welfare	10
26 organizations are doing work in addition to other work	
2. Public health nurses in Illinois.	
Total number of public health nurses	1,260
Tuberculosis	100
American Red Cross	100
General	100
School	100
Industrial	100
Child welfare	100
3. Visits.	
Number of counties in State	100
Number of cities in State	100
Number of visits to children	100
Number of visits to pregnant women	100
Number of visits to new mothers	100
Number of visits to school children	100
Number of visits to industrial workers	100
Number of visits to child welfare	100
Total number of visits	100
4. Addresses.	
Talks given to nurses	100
Talks given to laymen	100
Total number	100
5. Attendance at association.	
National	100
State and local	100
Total number of persons	100
6. Number of days spent in service	100
7. Special information.	

The nurses are organized for purposes of mutual aid and local workers are invited. There is a close cooperation on the part of the nurses and the public health department.

The establishment of public health nursing as an integral part of the public health system is a vision of public health workers.

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COOPERATIVE NURSING AGREEMENT

In the nation-wide effort to secure coordination in public service nursing through the cooperation of State governmental agencies and the larger National agencies engaged in nursing service, Illinois has taken an important part. The only two agencies of national character which have taken a very important part in the establishment of nursing service, have been the American Red Cross and the National Tuberculosis Association, and the preliminary nation-wide agreements essential to satisfactory cooperation are consequently entered into between the National Organization of State Health Authorities, the National Tuberculosis Association, and the central offices of the American Red Cross. In the preliminary conferences and in the preparation of this national agreement, the State health authorities were represented by the director of the Illinois State Department of Public Health as executive officer of the National Conference of State Health Authorities; while the National Tuberculosis Association was represented by the assistant director of the Illinois State Department of Public Health serving as a committee of one to represent the executive committee of that organization.

As these pages are written, there has been prepared a memorandum of agreement applicable to the State of Illinois, entered into by the director of the State Department of Public Health, the president of the Illinois Tuberculosis Association, and the manager of the Central Division of the American Red Cross. The various provisions of this agreement have already been declared satisfactory to all parties concerned and there is every likelihood that it will become effective substantially as written. This agreement will impose upon the nursing department of the Division of Child Hygiene and Public Health Nursing important new functions which will contribute materially to the betterment of every phase of public health work throughout the State of Illinois. The Illinois Nursing Agreement is as follows:

I. The following memorandum contemplates the acceptance of the general principles of certain agreements entered into between the Conference of State and Provincial Health Authorities, the American Red Cross, the National Tuberculosis Association, and the National Organization for Public Health Nurses, to-wit:

A memorandum of policy of cooperation between the State health authorities and the National Tuberculosis Association as amended December 1, 1919; a suggestion of principles for the cooperation of the Red Cross with the State Department of Health and other agencies in the field of public health nursing with amendments approved by the executive committee of the Conference of State and Provincial Health Authorities, July 29 and October 25, 1919; an agreement between the American Red Cross, the National Tuberculosis Association, and the National Organization of Public Health Nursing for the promotion of public health nursing and a suggested plan for cooperation between the Red Cross, the state tuberculosis associations in states in which there is no Bureau of Public Health Nursing and no state supervising nurse within the state department of health.

II. The State Department of Public Health will employ a supervising nurse who shall, at all times, be impartial and unprejudiced in her relationship with the American Red Cross, the Illinois Tuberculosis Association and all other participating agencies.

III. There shall also be attached to the State Department of Public Health an assistant supervisor of nursing service for the American Red Cross and an assistant supervisor of nursing service for tuberculosis. The assistant supervising nurse for the Red Cross may be compensated in whole or in part by the American Red Cross and the assistant supervisor of tuberculosis nursing may be compensated in whole or in part by the Illinois Tuberculosis Association. In the selection of these assistant supervising nurses, the interested agencies will have a voice so far as may be consistent with the civil service laws of the State of Illinois. When the salary of the assistant supervising nurse is wholly paid by either extra-governmental agency, the interested agency may select the assistant supervising nurse with the approval of the State Department of Public Health. In any event, the assistant supervising nurses will act under the supervision and direction of the State Department of Public Health and these assistant supervising nurses, together with the State supervising nurse, will constitute a supervisory body of public health nursing in the State.

IV. The State Director of Public Health, together with duly authorized representatives of the American Red Cross and the Illinois Tuberculosis Association and officials of other extra-governmental cooperating agencies, will constitute a standing committee to confer on questions affecting the relationship of the State Department of Health to extra-governmental nursing services and the relationship of the extra-governmental services to each other. Questions of policy will be determined by the standing committee, which will serve as a committee of review of the supervisory body of nurses. It is understood that neither the State supervising nurse, nor assistant supervising nurses shall represent their organizations on this standing committee.

V. The supervising nurse acting for and under the direction of the Director of Public Health, shall have general supervision over all public health nursing of the State, whether publicly or privately maintained. It will be the policy of the State Department of Public Health in the promulgation of rules, programs, policies or procedures, to take no action tending to affect or disturb nursing service supported in whole or in part by extra-governmental agencies without conference with such extra-governmental agencies through their duly designated representatives.

VI. The American Red Cross and the Illinois Tuberculosis Association will recommend to public health nurses employed in whole or in part with funds furnished by them or to nurses otherwise affiliated with them a whole-hearted acceptance and concurrence in the supervision of the State Department of Public Health, although nothing in this paragraph shall be construed to interfere with concurrent supervision or contact by the Red Cross or the Illinois Tuberculosis Association through their supervising nurses or otherwise with their several nursing services.

VII. Before submitting nursing plans or programs for any community in which nurses are now employed by the American Red Cross or with tuberculosis funds or in affiliation with the Illinois Tuberculosis Association or in which it is contemplated that funds derived from extra-governmental services will be used in whole or in part in carrying out such plans or programs, the State Department of Public Health will confer with the Illinois Tuberculosis Association and the American Red Cross, such conferences to be held prior to the submission of such plans to the local communities or local agencies. Neither the Illinois Tuberculosis Association nor the American Red Cross will institute or establish nursing activities in any community without submission of the plans or programs to the representatives of the other agencies parties to this memorandum.

VIII. The American Red Cross and the Illinois Tuberculosis Association will recommend as a general policy to their affiliated societies, or for plans in the expenditure of funds, that general public health nurses be employed rather than nurses engaged in specialized fields. But nothing in this paragraph shall interfere with the employment of special nurses in communities where the importance of special work appears to the standing committee to justify the employment of such special nursing service. As a general proposition, it is accepted that special tuberculosis nurses may be properly employed wherever there is established, or in the opinion of the standing committee should be established, a permanent tuberculosis dispensary; that special child welfare nurses shall be employed where there are established or, in the opinion of the standing committee, should be established permanent welfare stations or clinics or other specialized nursing service as may be required.

IX. It is specifically understood that where general public health nurses are employed by funds from more than one agency, the nursing service shall be designated and known as a community nursing service rather than the nursing service of any one of the several participating agencies.

X. The organizations concerned in this understanding accept the following qualifications for nurses engaged in public health nursing service: four months in an approved course in public health nursing service, or eight months in a general public health nursing organization. It is further understood in face of the great demand for public health nursing service, that said organizations may take temporary appointments of nurses who have spent two or more months with a general public health nursing organization that is prepared to take on nurses and give them systematic instruction and supervision. When such appointment is made it should be definitely understood by both the nurse and the community that the appointment is a temporary one, and that it will necessitate close supervision on the part of the State organization with which the service is affiliated and that the nurse will be relieved at a later period to take up further preparation. It is definitely understood that nothing in this paragraph shall affect the appointment of nurses already engaged in nursing service by the participating agencies or by affiliated agencies.

XI. In the establishment of any nursing service by a participating agency an earnest effort will be made to secure the cooperation of local health authorities before any permanent plans or programs are adopted.

XII. The State Department of Public Health will prepare and distribute forms or reports of nursing service which will be distributed through the American Red Cross and the Illinois Tuberculosis Association to their affiliated nursing services with the understanding that duplicate reports will be submitted at reasonable intervals, both to the State Department of Public Health and to the organization with which the nursing service is affiliated. The State Department of Public Health in the preparation of these report blanks will take into consideration the needs and desires of the several affiliated agencies.

XIII. It is understood that any one of the participating agencies may withdraw its approval of this memorandum and may withdraw its participation in this cooperative plan after thirty days' notice of such withdrawal has been made to the participating agencies by a duly authorized representative.

XIV. It is definitely understood that in the carrying out of the provisions of this memorandum the Director of the State Department of Public Health must act in conformity with the Civil Administrative Code and the laws of the State of Illinois, and that he cannot delegate in any way the duties, obligations or authority imposed upon him by the statutes.

LITERATURE

During the year the division has prepared a "Diet List for Infants and Children" which has been in constant demand. In fact, the first large edition is already exhausted and a new edition, entirely revised and rewritten, is now in process of preparation.

The division is also engaged in the preparation of a new edition of the circular "Better Babies" to take the place of the first edition of that very useful publication which is now entirely exhausted.

CONFERENCES

The division took an active part in the Better Babies Conference held by the department in connection with the Illinois State Fair. The conference during the past fiscal year was the best and largest that had ever been held until that time; but it is anticipated that the conference at the State Fair of 1920 will exceed all efforts in the past.

In these conferences hundreds of children are weighed, measured, examined and scored and the scores are interpreted and advice is given on the basis of the score to the parents of each child.

This State conference has furnished the inspiration for many similar conferences throughout the State. The division has assisted in conferences at Libertyville, Joliet, Aledo, Paxton, Pinckneyville, and Coulterville.

All members of the division staff have repeatedly responded to invitations to speak at public gatherings throughout the State, appearing before conventions, clubs and civic bodies.

As a result of these conferences, the division has been instrumental in establishing or supporting infant and child welfare stations at East St. Louis, Alton, Moline, Princeton, Streator, Galesburg, Joliet and Champaign. In some instances a medical officer of the division has conducted the weekly clinics until permanently established in local medical hands.

CLINICAL WORK

The reconstruction work for crippled children, initiated a number of years ago, has grown with remarkable strides and now requires fully one-half the time of the staff of the division.

Regular clinics, at definite intervals are held at Springfield, Freeport, Rockford, Waukegan, Elgin, Aurora, Cicero, Blue Island, Joliet, Kankakee, Ottawa, Streator, Princeton, Rock Island, Moline, Galesburg, Quincy, Monticello, Champaign, Danville, Alton, East St. Louis, and Mattoon. Clinics are also held irregularly at Jacksonville and Bloomington.

As shown in the accompanying table (Table XVII), 166 clinics have been held during the year with a total number of 1,498 patients. The total number of visits made by these patients to the clinics was 3,026. Shoes, braces and appliances were fitted and supplied in 919

cases and special muscle training was given in 585 cases. Of the total number of patients 557 were victims of infantile paralysis for whom these clinics were originally instituted.

TABLE XVII.

	Number of clinics.	Number cases visiting clinics.	Number visits to clinics.	Shoes, braces, casts and appliances.	Received special muscle training.	Number of infantile paralysis cases.	Cases referred to family physician.	Number Wasserman tests advised.	Number receiving hospital or institutional care.	Operations advised.	X-Rays.	Number malnutrition cases.
Alton.....	5	51	119	30	19	11	4	5	1	6	5	10
Aurora.....	6	42	98	34	26	25	6	4	3	2	4	3
Blue Island.....	6	40	68	25	17	16	5	4	3	5	5	5
Champaign.....	6	58	76	26	17	11	6	2	2	4	12	4
East St. Louis.....	5	52	81	20	17	13	11	10	5	9	9	4
Freeport.....	9	155	282	86	55	60	22	6	1	14	14	26
Jacksonville.....	3	33	49	22	10	8	4	3	2	3	5	6
Joliet.....	5	78	129	38	22	20	13	7	7	8	15	12
Kankakee.....	7	58	151	30	24	26	6	5	5	6	6	2
Moline.....	5	43	83	30	15	16	4	-----	3	3	3	4
Monticello.....	5	54	94	40	26	23	3	-----	7	1	4	-----
Oak Park.....	6	30	51	23	16	23	2	2	3	2	5	-----
Cicero.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Ottawa.....	6	30	75	21	13	18	2	1	2	2	3	5
Streator.....	5	53	108	35	24	24	9	-----	5	6	5	14
Quincy.....	6	110	114	42	23	18	9	4	4	5	7	11
Rockford.....	6	64	101	42	25	23	10	4	5	7	5	4
Rock Island.....	5	15	32	9	11	6	1	-----	1	-----	-----	1
Springfield.....	45	247	801	187	92	92	14	8	28	10	46	27
Waukegan.....	5	42	110	31	30	26	3	2	5	1	3	3
Elgin.....	4	33	41	18	15	14	4	1	2	4	5	2
Galesburg.....	3	56	76	30	19	18	14	5	4	6	6	7
Princeton.....	5	50	82	37	19	27	4	2	3	6	2	8
Bloomington.....	1	14	14	8	8	4	-----	1	-----	2	3	-----
Danville.....	7	90	193	55	42	35	15	2	7	9	12	10
Total.....	165	1,498	3,026	919	585	557	173	78	108	121	184	180

DIVISION OF SURVEYS AND RURAL HYGIENE

BAXTER K. RICHARDSON, *Acting Chief*

The great wave of development that has marked the trend of public health administration in Illinois during the fiscal year ending June 30, 1920, has greatly limited the scope of work done by the Division of Surveys and Rural Hygiene. Instead of covering the broad field of service indicated by its title, the division has been surcharged with responsibilities relating wholly to sanitary surveys. Cities all over the State have awakened to the great public service rendered by an efficient and adequate health department; they have realized that a great economic saving can be effected in this way. Along with this awakening on the part of local authorities has come to them also the perplexing fact that public health administration offers problems manifold and complex. As local authorities have come to realize that experienced men alone can determine the exact character of their particular public health problems and offer practical solutions therefor, they have turned to this division for assistance. Services of this character in the moderate sized community have taken up practically all of the time of the Division of Surveys and Rural Hygiene during the past year.

EDUCATIONAL ACTIVITIES

A follow-up educational campaign is a new feature added to the program of a general health and sanitary survey of this division. The features of these campaigns are a series of newspaper articles and a series of conferences. The newspaper articles are carefully prepared stories based upon, and growing out of, the survey findings. The conferences are attended by representatives of the State and local governments and of extra-governmental agencies that are or should be interested in public health work. In these conferences are discussed the health problems of the community, as well as the ways and means of their solution. The general educational influence and the practical public health administrative results that have grown out of these campaigns are so immediate and far reaching that the educational follow-up work is now considered an integral part of every survey, and regarded as a definite function of this division.

In spite of the fact that requests for surveys have been greatly in excess of the capacity of the division, its policy has remained thoroughness rather than expansiveness of service. The time required for making

a complete and exhaustive study varies, according to the size of the community, from three to four months. A resume that shows where surveys have been carried out during the year follows:

ALTON SURVEY

At the request of the Board of Trade, which represented a number of local organizations, the survey of Alton, Madison County, was undertaken and carried out. Through a house-to-house canvass the exact sanitary conditions that prevailed in the city were determined, and much valuable information bearing upon the health history of the community was collected.

The discovery of a score of unreported cases of scarlet fever represents one leading feature of this survey. This discovery of a potential epidemic that threatened the city and its subsequent suppression served as an important, practical demonstration of the value of efficient public health administration.

That the Madison County Medical Society financed the survey is worthy of note. During that part of the survey which dealt with the physical examination of school children local physicians also gave unsparingly of their time. Active and whole hearted cooperation of this character on the part of practicing physicians is especially encouraging to public health officials.

Immediately following the general health and sanitary survey, the State Department of Health cooperated with the Illinois Tuberculosis Association in an intensive tuberculosis survey of Alton. This division was placed in charge of the field work of this survey and was also responsible for a large part of the publicity campaign incident thereto.

Following the survey this division carried out for the first time an educational campaign as described above.

MOLINE SURVEY

The survey of Moline, Rock Island County, was carried out upon the same general lines as that in Alton, and was undertaken in response to a joint request from the city and the Moline Community Council.

Especial interest in the study of Moline arises from the peculiar situations that surround the city. It is a community purely industrial, characterized by rapid growth and a strong foreign element, with few negroes. With its 30,709 people, Moline forms the hub from which radiates the great industrial community made up of Davenport, Rock Island, East Moline and Silvis. All these join hands in supplying the labor required in the great manufacturing plants of Moline that send out farm implements, wagons, tractors and engines to all parts of the world.

Unlike the other members of this great industrial community, Moline presents a life-long history of endemic typhoid fever incidence that has been intensified from time to time by general outbreaks, severe

in nature. This peculiar fact encouraged anxiety on the part of local officials and operated as a leading factor in the request for assistance from the State.

The survey showed that the typhoid fever history of Moline is closely related to a large number of privy vaults and the users of a large number of shallow wells found in the city. Upon the basis of data collected, this division was able to offer practical suggestions and recommendations for solving not only the typhoid problem but also for the establishment of an efficient local health department.

QUINCY SURVEY

As these pages are written the division is closing an inquiry into the sanitary and health conditions that prevail in Quincy, Adams County. Unusual interest attaches to this survey for a number of reasons. On the one hand the city has been without a comprehensive public health administration; in spite of its manifold and varied industries it has shown no material gain in population during the last ten census years; its white population comes largely from English and German extraction in about equal numbers while the negro population is considerable. On the other hand the city has been organized into a public health district under a State law that provides for raising adequate funds and for establishing the necessary machinery for executing public health administration; the Chamber of Commerce and clubs such as the Rotary, Kiwanis and Lions are now united with a singleness of purpose to create a large and wholesome community atmosphere charged with health and progress.

Under these circumstances, the survey findings may easily be reduced to a practical foundation for the larger public health administration that will be installed at the opening of the next fiscal year. Quincy has the enviable advantage of being financially prepared to follow out in the fullest possible way the suggestions and recommendations that will result from the study.

The survey in Quincy was undertaken at the request of the organizations that created the public health district. Its purpose was to find out the problems, submit practical solutions, and prepare the field for the successful inauguration of the new administration.

GENERAL ACTIVITIES

In addition to the three exhaustive studies described above this division carried out a general inquiry into the public health activities of all communities in Illinois with more than 5,000 inhabitants, Chicago excepted. This survey showed what the several local public health needs are; it described the efficiency of local administration and the expenditures therefor; it indicated the general local attitude toward public health administration and suggested the nature of local problems. The information collected gives a splendid idea of the earning power of a dollar in public health service.

The division prepared and displayed an unusually attractive exhibit at the State Fair. Through graphic and pictorial illustrations the services and functions of the division were shown in a manner that was easily and readily understood by the average visitor. A large number of visitors from rural districts and the distribution of literature were the principal benefits resulting from the exhibition.

The Division of Surveys and Rural Hygiene has constantly co-operated with the other divisions of the Department of Public Health. It has discovered violators of the law that interest especially the Divisions of Communicable Disease and Vital Statistics; it has collected much information of great value to the Divisions of Tuberculosis and Child Hygiene.

PROPOSED FUTURE DEVELOPMENT

A growing demand for standardizing special branches of public health administration suggests the expansion of this division along that line. During recent months numerous agencies have sought information bearing upon an approximately definite per capita expenditure necessary for efficiently carrying on special activities such as infant welfare, tuberculosis, visiting nursing and kindred programs.

Because of its limited personnel the division has not been able to carry out a comprehensive rural program. The active and extensive need for such a program suggests the creation of a sub-division to meet the demand.

The large number of communities that are taking advantage of the present type of exhaustive studies carried on by this division, suggests an increase in personnel in order that these surveys may be made with more dispatch. An increase in personnel is also necessary if modified surveys of special subjects are undertaken.

Recommendations for future developments of this division are, therefore, three-fold. First, the services now rendered should be more expansive. Secondly, a sub-division should be created to meet the rural problem. Thirdly, modified surveys should be undertaken. Along with all of these activities the educational work done by the division can be greatly increased.

PROPOSED LEGISLATION

A law providing for the establishment of public health districts, and the appointment in them of full time health officers, would greatly increase the effective functioning of this division.

DIVISION OF DIAGNOSTIC, BIOLOGICAL AND RESEARCH LABORATORIES

The year ending June 30, 1920, has been an important one in the history of the Division of Laboratories of the State Department of Health. The laboratory personnel was seriously depleted by the call of military service, but has now been restored to normal and the scope of work undertaken during the past year has not only equaled the pre-war status but has gone far beyond.

There has been somewhat of a handicap to the work of the division on account of the fact that at various times four different persons have acted in the capacity of chief. Martin DuPray, the former chief, left the service in August, 1919; Miss Caroline Steele entered the work for a short time after which Miss Eva Faught acted in that capacity. The present chief of the division assumed his duties in January, 1920. Despite this continuous disruption in the working forces, the standard of work has been maintained and the volume continually increased.

It has been the purpose of the department to separate entirely the Division of Diagnostic Laboratories from the Division of Biological and Research Laboratories, and this will be possible within the next few months when the Division of Biological and Research Laboratories will take possession of the laboratory buildings located north of Springfield and previously maintained by the State Department of Agriculture for the production of hog cholera serum. The Division of Diagnostic Laboratories will remain in the State House, and both laboratories will at that time be provided with adequate room for the carrying out of their extensive programs. During the past year, however, the two divisions have remained in the same quarters and under the same direction.

The Fifty-first General Assembly made certain increases in appropriations rendering it possible to increase the laboratory personnel. The Biological and Research Laboratories had assigned to them the chief of the division, an assistant bacteriologist, a laboratory helper, a stenographer and a shipping clerk. The Division of Diagnostic Laboratories had assigned to it a chief bacteriologist, an assistant bacteriologist, a laboratory helper and a stenographer.

A constant effort has been made to obtain a chief bacteriologist for the Division of Diagnostic Laboratories who would be able to relieve the chief of the division of the responsibility of routine diagnostic work so

that he may spend the time in the preparation of biological products. The salary provided for this position has not been sufficient to attract the proper kind of person and it is recommended that a provision for increased salary be made by the next General Assembly.

DIVISION OF DIAGNOSTIC LABORATORIES

THOMAS G. HULL, PH. D., *Chief*

During the past year there has not only been a material increase in the volume performed but in the scope of the work undertaken. The Diagnostic Laboratories now perform the following service:

Serology:

1. Complement fixation test in syphilis, (Wassermann test).
2. Complement fixation test in gonorrhea.
3. Complement fixation test in tuberculosis.
4. Agglutination test in typhoid fever:
 - (a) Microscopic (Widal test).
 - (b) Macroscopic.
5. Pneumococcus typing.

Bacteriology:

1. Sputum for tubercle bacilli.
2. Pus smears for gonococci.
3. Smears for Vincent's angina.
4. Swabs for diphtheria bacillus.
5. Feces for typhoid bacillus.
6. Feces for dysentery bacillus.
7. Urine for typhoid bacillus.
8. Blood for culture.
9. Pus for culture, (autogenous vaccine).
10. Sputum for culture.
11. Spinal fluid for culture.
12. Miscellaneous materials for culture, as milk, food and exudates.

Pathology:

1. Dogs' heads for rabies.
2. Blood smears for differential count.
3. Urine for routine analysis.
4. Spinal fluid for cell count and globulin test.
5. Feces examination for:
 - (a) Blood.
 - (b) Gall stones.
 - (c) Bile.

Histology:

1. Tissue for section and microscopical examination. (Facilities are not available for this work as routine matter at the present time, but preparations are being made so that it can be done in the near future.)

Chemistry:

1. Milk for fat test (Babcock test).
2. Urine for chemical analysis.
3. Spinal fluid for Lange's colloidal gold test.
4. Gastric contents for acidity.

Parasitology:

- 1. Blood smears for malaria parasites.
- 2. Feces for parasites:
 - (a) Hookworm.
 - (b) Tapeworm.
- 3. Smears for treponema pallidum.

Entomology (as related to public health only):

- 1. Lice.
- 2. Fleas.
- 3. Ticks.
- 4. Mosquitoes.
- 5. Flies.

During the past year the laboratory personnel has been constantly watchful for means by which it can increase the value of its service to the physicians of the State. To this end there has been considerable research and the study and checking-up of procedures carried out by other laboratories.

The volume of work performed during the twelve months was two and one-half times greater than that carried out during the previous year. The largest increase in service was in the Wassermann test for syphilis, showing an increase from 2,672 to 13,139. Examinations of swabs for the Klebs Löffler bacilli (diphtheria), came next with a total increase of about four thousand swabs examined. The examination of pus for the detection of gonococcus infection has increased threefold, while the examinations of sputum for the presence of the tubercle bacillus have developed in number.

The examinations made at the Central Diagnostic Laboratories at Springfield during the twelve months of the past fiscal year, are shown in Table XVIII.

TABLE XVIII—WORK OF THE DIVISION OF DIAGNOSTIC LABORATORIES FOR THE YEAR JULY 1, 1919-JUNE 30, 1920.

	Diphtheria.	Typhoid-Widal tests.	Paratyphoid A.	Paratyphoid B.	Malaria.	Gonococci.	Tubercle bacilli.	Meningococci.	Wassermann tests.	Complement fixation tests tuberculosis.	Complement fixation tests gonorrhea.	Miscellaneous.	Total.
July.....	47	195	201	195	10	92	409		782			16	1,950
August.....	107	171	170	165	18	69	438		594			16	1,751
September.....	688	150	154	142	7	69	402		749			6	2,377
October.....	452	135	135	135	3	112	444		1,204			16	2,636
November.....	2,485	136	127	138	10	144	486	35	696			10	4,267
December.....	600	86	86	86	3	133	484	201	1,226			4	2,909
January.....	230	101	101	101	2	156	594		1,163			8	2,426
February.....	226	100	98	117	2	134	489		1,090			6	2,260
March.....	103	144	144	144	3	140	599		1,364		2	63	2,706
April.....	154	85	85	85	3	141	619		1,333	4	21	58	2,588
May.....	146	86	86	86	6	129	612		1,332	21	38	61	2,603
June.....	68	131	131	131	6	149	620		1,606	42	54	83	3,021
Total.....	15,276	1,529	1,516	1,532	73	1,468	6,196	236	13,139	67	115	347	31,494

As indicated in Table XVIII, during the past fiscal year 31,494 specimens were examined as compared with 12,003 for the fiscal year 1918-1919; 10,500 for fiscal year 1917-1918 and 6,015 for fiscal year 1916-1917.

In addition to the central laboratories at Springfield, the State Department of Health maintains five branch laboratories especially designed for the examination of specimens where time is an important factor in determining the diagnosis. These laboratories have been located in the following places: East State Laboratory, Urbana; North State Laboratory, 7 West Madison Street, Chicago; North West State Laboratory, East Moline; South State Laboratory, Mt. Vernon and West State Laboratory, Galesburg.

During the early part of the year these laboratories examined swabs for the Klebs Löffler bacilli, meningococci and made Widal tests for typhoid. Through a lack of sufficient funds all work, especially the examinations for diphtheria bacilli, had to be discontinued. The work of these branch laboratories is indicated in Table XIX:

TABLE XIX—WORK OF THE BRANCH STATE LABORATORIES.

	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Total.
East State Laboratories—													
Diphtheria.....	20	13	137	89	107	88	97	100	83	78	32	7	851
Widals—typhoid.....	8	11	18	25									62
Meningococci.....		1											1
North State Laboratory—													
Diphtheria.....	65	31	44	366	169	124	70	19	28	51	48	32	1,047
Widals—typhoid.....	11	13	19	15					1				59
Meningococci.....	3												3
South State Laboratory—													
Diphtheria.....	1	4	11	192	222	193	101	41	74	48	14	6	907
Widals—typhoid.....													
Meningococci.....					1								1
North-West State Laboratory—													
Diphtheria.....	2	4	21	50		33	38	20	20	32	18	5	243
Widals—typhoid.....	10	23	10	33									76
Meningococci.....													
West State Laboratory—													
Diphtheria.....					87	16	16	8	11	15		10	163
Widals—typhoid.....													
Meningococci.....													
Total.....	120	100	260	770	585	454	322	188	217	224	112	60	3,412

The work of the laboratories of the State Department of Health, is rendered without charge. The value of this service, measured not in the prevention of illness and the saving of human life, but rather in the ordinary charges for laboratory service, is much greater than has been generally believed. The following table (Table XX) indicates the amount of money saved to the physicians and the people of the State of Illinois by the free service rendered by the central laboratories and the

branch laboratories during the past fiscal year, amounting to something over \$113,000:

TABLE XX.

	Central laboratory.	Branch laboratories.	Total.
July.....	\$ 5,708	\$ 360	\$ 6,068
August.....	4,828	300	5,128
September.....	7,260	798	8,058
October.....	8,049	2,250	11,199
November.....	12,758	1,764	14,522
December.....	9,043	1,362	10,405
January.....	8,248	957	9,205
February.....	7,696	744	8,440
March.....	9,324	651	9,975
April.....	9,207	672	9,879
May.....	9,237	336	9,573
June.....	11,004	180	11,184
Total.....	\$103,260	\$10,374	\$113,634

SHIPPING SERVICE

The preparation, shipment and distribution of mailing containers to physicians, agents and clinics, has become more and more of a problem. Each finished container sent out represents from 10 to 20 cents of State money. Among the thousands of containers distributed, some go astray, some are broken, some unused and some are employed to send specimens to other laboratories, in violation of the State laws forbidding their use for private purposes.

The Division of Diagnostic Laboratories has recently arranged a method of check-up on containers so that it may be ascertained in what locality the loss, if any, takes place. The division at the present time furnishes the following double mailing containers, complying with postal regulations: Wassermann outfits, containing sterile tube and bleeding needle; diphtheria outfits, containing sterile tube and cotton swab; sputum outfits, containing vial with 5 per cent carbolic acid; and fecal outfits, with vial containing sterile glycerin and with sterile swab. Single mailing tubes are distributed containing micro slides for the submission of pus and blood smears. Envelopes containing parchment paper are used for the collection of blood for Widal tests.

The following table (Table XXI) shows the record of mailing case containers as compared with the previous year, and it will be noted that practically four times as many containers were distributed during the past year:

TABLE XXI—DISTRIBUTION OF LABORATORY CONTAINERS.

	Sputum.	Wasser- mann.	Widal.	Micro- slides.	Diph- theria.	Others.	Total.
July.....	456	808	256	168	151	6	1,873
August.....	527	781	248	128	387	31	2,102
September.....	717	1,213	244	185	1,606	2	3,967
October.....	651	1,523	223	277	2,081	4	4,759
November.....	761	1,371	213	188	1,522	18	4,073
December.....	723	1,529	102	224	1,184	43	3,805
January.....	771	1,716	84	286	414	18	3,259
February.....	530	1,499	177	202	72	16	2,496
March.....	695	1,505	245	418	157	68	3,088
April.....	869	1,432	72	175	511	151	3,210
May.....	1,052	1,555	144	490	290	40	3,571
June.....	809	1,855	119	279	129	42	3,334
Total.....	8,651	16,787	2,157	3,018	8,504	439	39,556
Total for 1918-1919....	3,566	3,294	1,424	728	1,950	47	11,009

MOBILE LABORATORY

The mobile laboratory operated by the Division of Diagnostic Laboratories has been of considerable service during the past year in checking up diphtheria and meningitis outbreaks. The laboratory consists of a chest which can be shipped as baggage on the same train with the attendant, arriving at the destination at the same time. The contents of the chest varies according to the nature of the work in hand, but it contains under ordinary circumstances, microscope, incubator, burners, stains, slides, culture media and swabs. Close contact is kept with the central laboratory at all times that the mobile laboratory is in operation, in order that culture media or other supplies may be furnished in sufficient quantities.

During the past year the mobile laboratory has been called upon to meet emergencies at Anna, Rockford, Lewistown, Meekin, Salem and Elgin.

EDUCATIONAL WORK

It has been the policy of the division to encourage the members of the staff in advancing themselves through study and observation in the more advanced technique of laboratory procedure, so that all employees shall have a general working knowledge of every phase of laboratory diagnostic purposes and methods.

To this end, numerous divisional conferences have been held in which bacteriologic progress has been reviewed and special emphasis placed upon this progress in its relationship to public health problems. The benefits from these conferences have been demonstrated without question and as a result it has been found that the younger members of the laboratory staff have been able, in times of emergency, to assume advanced duties.

From time to time various members of the medical and nursing professions of the State have visited the laboratories for the purpose of

acquainting themselves with newer methods of laboratory technique, or to review their previous training. It has been the policy of the division to encourage such visits, and to give every possible facility to these visitors.

The United States Public Health Service, in the establishment of a school for diagnosis of tuberculosis in Springfield, has made laboratory procedure a part of the regular course, and instruction in this branch has been given regularly in the laboratories of the department.

The division has prepared a special exhibit, which was shown at the Illinois State Fair, demonstrating the relationship between bacteria and disease, the prevalence of bacteria in every day life and the means by which bacteria may be destroyed. The exhibit has caused considerable favorable comment, and requests for its use have been received from numerous schools and health centers.

BIOLOGICAL AND RESEARCH WORK

The Biological and Research Laboratories, to be under the direction of a separate division of the State Department of Health, were created by the last General Assembly. The duties of this division are to produce the biological products for free distribution necessary to the prevention and suppression of communicable disease and to develop more advanced laboratory procedures in the production of such products.

Owing to the cramped condition of quarters on the top floor of the State House, it proved impossible to establish two separate divisions and it also proved impossible to produce biological products on a large scale. Further, the increased demands upon the diagnostic laboratory, amounting to almost three times the demand of any previous year, has made it necessary to utilize all laboratory technicians in the diagnostic division.

It is now understood that the Division of Biological and Research Laboratories will be provided with special quarters, taking over the plant located north of the city of Springfield, originally created by the State Department of Agriculture for the production of hog cholera serum.

These laboratories are well adapted to the needs of the division, and it is expected that the State will be able to produce in these new quarters products which are now costing the public large amounts of money. In view of the greatly increased demands upon the Division of Diagnostic Laboratories, however, it will be necessary to materially augment the present laboratory staff if both of the laboratory divisions are to be adequately manned.

INTERDEPARTMENTAL COOPERATION

The Division of Diagnostic Laboratories is constantly in touch with several of the other divisions of the department. Copies of reports on all specimens which are positive, indicating the existence of communicable diseases, are sent to the chief of the Division of Communicable

Diseases and to the district health officer within whose jurisdiction the patient resides. Copies of all positive reports in cases of venereal diseases are likewise sent to the chief of the Division of Social Hygiene. Through the Division of Tuberculosis constant touch is maintained with many of the tuberculosis clinics in the State, and these are kept supplied with mailing containers for the transmission of sputum. The Division of Sanitary Engineering, through its engineering laboratory, is in very close touch with the Division of Diagnostic Laboratories at all times.

FUTURE DEVELOPMENTS

The Division of Diagnostic Laboratories and the Division of Biological and Research Laboratories stand at the very threshold of their possible usefulness to the physicians and the people of the State. The foundation has been intelligently and firmly laid and upon it a structure of unlimited proportions may be built with unquestioned efficiency and economy.

During the coming year it is hoped that certain very essential objects may be attained which will make for the material betterment of the service. First among these is the establishment of the Biological and Research Laboratories in new and modern quarters, making it possible to produce vaccine virus for the immunization of smallpox; typhoid vaccine, pneumococcus vaccine, and diphtheria antitoxin for use in connection with the Schick test to determine immunity to diphtheria.

The quarters now assigned to the diagnostic laboratories are altogether inadequate to meet the growing needs of the State while the location of the diagnostic laboratories within the new quarters of the Biological and Research Laboratories would prove so inconvenient as to be entirely impracticable.

More room must be obtained in the State House or in the central portion of Springfield for bacteriological and serological procedures and for the establishment of routine examination of pathological specimens for which there is a large and growing demand.

The branch laboratories can be made of much more value than at present, and can relieve the pressure upon the Central Diagnostic Laboratories by the appropriation of sufficient funds to permit extension of service to include the examination of specimens from suspected cases of typhoid fever, pneumonia and meningitis, in addition to the diphtheria work which is now carried out.

It is desirable that the work in the branch laboratories be done on a salary rather than a piece work basis, and it is also desirable that there shall be established more branch laboratories, especially in the extreme southern and the extreme northern sections of the State.

DIVISION OF LODGING HOUSE INSPECTION

WILLIAM W. McCULLOCH, *Superintendent*

The Division of Lodging House Inspection of the State Department of Health is charged with the supervision of certain sanitary features of lodging houses, boarding houses, taverns, inns and hotels in cities of 100,000 population or over. On account of this limitation as to population the activities of the division have been confined to the city of Chicago where an office is maintained at 130 North Wells Street.

INSPECTIONS

During the fiscal year ending June 30, 1920, 443 lodging houses, boarding houses, taverns, inns and hotels were measured and 278 re-measured. At the time of inspection there were 10,805 lodgers in these lodging houses which contained a total of 14,495 rooms. The legal capacity of these lodging houses was 34,544.

The following table (Table XXII) shows the total number of inspections made during the fiscal year with the number of rooms, the number of lodgers occupying the quarters and the present legal capacity:

TABLE XXII.

	Supplemental inspections.	Rooms.	Lodgers.	Present capacity.
1919				
July.....	398	8,788	5,892	12,078
August.....	519	15,160	10,714	20,963
September.....	408	11,454	8,543	14,442
October.....	385	21,144	8,634	14,530
November.....	285	5,084	3,612	6,490
December.....	393	12,510	9,802	16,010
1920				
January.....	4	60	48	81
February.....	42	988	748	1,142
March.....	85	2,181	2,056	3,537
April.....	3	82	80	104
May.....	56	961	648	1,319
June.....	170	3,896	2,928	5,082
Total.....	2,748	82,308	53,705	96,078

During the year 226 premises previously occupied as lodging houses, were found to be vacant, 151 were occupied by other lines of business, and 36 were torn down.

During the months of January and February, 1920, all of the inspectors were assigned to the duty of serving notices on proprietors and

managers of lodging houses, boarding houses, taverns, inns and hotels, to file the sworn statement required by the State Department of Health Act and the Civil Administrative Code by March first of each year. The inspectors served 5,940 such notices upon proprietors and managers and reported the number of lodgers to be 109,694.

The proprietors and managers of lodging houses, boarding houses, taverns, inns and hotels, who failed to file a sworn statement with the county clerk on March 1, were served with a written notice directing them to file their statement within three days from date of service. During March, April and May, the inspectors served 2,439 of these second notices on proprietors and managers of houses in which there were 30,275 lodgers.

During February, March and May the inspectors were assigned part of the time to work in the office of the division and in the office of the county clerk, in connection with the filing of sworn statements, and making copies thereof for the department, as provided in the rules and regulations of the State Department of Health. The number of sworn statements filed with the county clerk for the year 1920 is 5,120, all of which have been copied by the inspectors and preserved in book form.

VIOLATIONS

From July 1, 1919, to June 30, 1920, 385 violations of the public health laws relative to lodging houses and boarding houses, have been reported. In each case, a written notice was served upon the proprietor or manager directing that objectionable conditions be corrected within a definite period of time, which in no instance exceeded ten days. At the expiration of the time given, reinspections were made and in all instances it was found that the orders had been complied with.

EDUCATIONAL SERVICE

During February, 1920, when influenza was prevalent in epidemic form, the inspectors of the division made a survey of sickness conditions in the lodging houses of the city of Chicago, reporting daily to the Commissioner of Health and mailing duplicate copies of reports to the State Department of Health at Springfield. These reports gave the name of the person afflicted, with his address and also gave the name of the disease, and whenever possible, the name of the attending physician. During the period from February 5 to February 18, inspectors located forty seriously sick persons in the lodging houses of the city, nineteen of whom were suffering from influenza, nineteen from pneumonia and two from active tuberculosis.

DIVISION OF PUBLIC HEALTH INSTRUCTION

SAMUEL W. KESSINGER, *Acting Chief*

At the end of the third year the Division of Public Health Instruction, while strictly speaking in its formative period, seems to have struck its stride and is now fully demonstrating the wisdom of its creation.

The routine duties of the division, such as the issuance of the Illinois Health News, and bulletins from time to time concerning the various diseases which threaten the public health, have heretofore been so fully set forth that little remains to be added for the information of the public.

EDUCATIONAL ACTIVITIES

As new phases of child welfare work are developed complete information in pamphlet form is prepared for distribution by this division. This is also true of the progress made by each of the divisions comprising the State Department of Health.

With the steady increase in the number of clinics throughout the State for crippled children and those for the treatment of tuberculosis and social diseases, there has arisen a steady and constantly increasing demand for authentic information. This demand is being met as rapidly as the specialists in charge of the work of the several divisions of the department can prepare and turn it over to the Division of Public Health Instruction for printing and distribution.

There has been a general awakening of the public along the line of welfare work and health promotion. Extra-governmental health movements are being organized in many communities, calling for the active cooperation of the Division of Public Health Instruction in the matter of furnishing literature and speakers for their health programs.

During the past year the news service of this division has been systematized with most gratifying results. It has been the object of the division to place genuine health news concerning the activities of the State Department of Health and of the various communities of the State before the people in the shortest and most readable style. The newspapers of the State are to be congratulated for their hearty cooperation in this campaign for better health in Illinois. Without that cooperation but little could have been accomplished. With it, there is no doubt but that Illinois will stand first among the states of the Union in net results along the lines of health promotion and disease prevention.

HEALTH PROMOTION WEEK

On March 26 and 27, 1919, the House and Senate, respectively, Fifty-first Illinois General Assembly, passed a joint resolution designating the weeks beginning on the second Sunday in the month of May, 1919 and 1920, as Health Promotion Weeks throughout the State. The State Department of Health was designated as the agency through which the activities of the weeks should be carried out. A vast amount of organization work was done in the campaign of 1919 involving an expenditure of more than \$8,000. The history of that campaign was written into the second annual report of the Division of Public Health Instruction.

Calling on the organizations effected in 1919 by means of the press service and without the expenditure of any funds beyond the average current expenses, the Health Promotion Week of 1920 was carried out generally throughout the State in a manner most gratifying to all concerned. Physicians, school authorities, the press, the pulpit and the general public cooperated to make the week a grand success. The press generally has taken up the idea and is calling for a continuous "keep clean" campaign instead of a once-a-year clean-up.

For the further information of the public the activities of the Division of Public Health Instruction are given under the heading:

EXHIBITS AND SPEAKERS

During the past few years the Department of Public Health has developed a very extensive and complete collection of exhibit material, consisting of a large mechanical exhibit, motion picture films, lectures illustrated by stereoptican slides and colored posters dealing with all phases of public health.

The mechanical exhibit accompanied by an experienced operator has been shown at seven county fairs during the year. Slides and lectures were sent to twelve high schools and woman's clubs. The motion picture films and the colored posters were in constant use, the films being sent to 35 communities and parcel post packages of the posters to 22 communities.

Fifty-five of the cartoon cuts which are used for the covers of the monthly publication, "Illinois Health News," were loaned for use in publications throughout this and neighboring states.

The motion picture films and the subjects treated are as follows:

The Rat Menace.—This film was prepared with a view to educating the public to the importance of getting rid of the rat, and shows the great harm done by this pest and ways to eradicate it. It is a convincing argument for the extermination of the rat.

An Equal Chance.—The public health nurse and her work are presented in this film, and answers are given to the questions, "What is a Public Health Nurse? Whom does she serve and how? Why is she one of Society's Indispensables?" Besides the demonstrations of bedside care, home instruction and country school nursing which are woven into the body of the story, accurate representations of various other branches

of public health nursing such as maternity care, infant welfare and tuberculosis are included without breaking the thread of the dramatic narrative.

The Priceless Gift of Health.—The story illustrated in this picture is one of the "child welfare" variety, showing the career of two boys, cousins, one of whom grew up under hygienic conditions to healthy manhood, while the other boy, whose mother thought "any milk was good enough so long as it was cheap," allowed him to grow up improperly cared for with the result that he was unfitted for life's work.

The Great Truth.—The ravages of consumption and the possibility of its cure are graphically and dramatically portrayed.

Tommy's Birth Certificate.—An educational picture of human interest to impress upon the public the importance and necessity of recording births, setting forth the embarrassments and misfortunes that may beset any individual whose birth has not been recorded.

Summer Babies.—The proper care of babies in summer time and the work of the child welfare nurse is presented.

The Fly Danger.—A valuable contribution to education in public hygiene by showing the part that flies play in the spreading of disease. This subject is full of human interest and action and is within the understanding of the child as well as the adult.

The Fly Pest.—This portrays the modes and methods of infection by flies.

Health Promotion Week Parade.—A short film showing the parade of school children and health organizations in the city of Springfield during the 1919 Health Promotion Week.

The chiefs of the several divisions of the department are usually available for public lectures on their individual lines of activity and this service has been very much in demand by clubs, societies, colleges and high schools. Representatives of the department have also appeared before various medical and scientific bodies for the purpose of presenting papers or of giving clinical instruction.

DIVISION OF SOCIAL HYGIENE .

G. G. TAYLOR, M. D., *Chief*

In an effort to control, suppress and eradicate venereal diseases, the alarming prevalence of which was demonstrated during the physical examination of men called for military duty under the Selective Service Act, the Division of Social Hygiene was created within the Department of Public Health on July 1, 1918. The Chamberlain-Kahn amendment to the Army Appropriation Bill passed by the Sixty-fifth Congress appropriated the sum of \$2,000,000 for the assistance of states in the control of venereal diseases for the two years ending June 30, 1920. This money was divided according to population among the states creating special divisions for the control of venereal diseases and adopting laws or enacting legislation requiring that these diseases be reported.

For the year ending June 30, 1919, the sum of \$66,307.51 was made available from this Government appropriation. The second year's allotment was conditioned upon an appropriation by the State legislature to be matched dollar for dollar with a like amount of Federal funds. The Fifty-first General Assembly appropriated for the use of the Division of Social Hygiene the sum of \$100,000 for the two years ending June 30, 1921. This was matched by an allotment of \$50,000 for the second year's work from the Federal Government, so that there was available for the year ending June 30, 1920, the sum of \$100,000.

The work of the division has proceeded along lines established during the first year, conforming, in general, to the venereal disease program suggested by the Interdepartmental Social Hygiene Board, which board was created by act of Congress to administer funds appropriated for venereal disease control. A study of the venereal disease situation has demonstrated that these diseases are, in fact, the most prevalent of all infectious diseases and are responsible for more human suffering and more expense to Government, states and counties than any other class of infectious diseases.

Regulations for the control of venereal diseases adopted by the Department of Public Health declare venereal diseases, namely, syphilis, gonorrhea and chancroid, to be contagious, infectious, communicable and dangerous to public health. The regulations differ from those in force against other infectious diseases in that the venereally infected person under treatment by a licensed physician is reported in such a manner that his name is not revealed so long as he respects the requirements of the regulations, (continuing under treatment until cured of his infec-

tiousness and refraining from exposing others to infection). The regulations require the treatment by counties of persons unable to pay for medical attention. They provide for isolation and quarantine where such extreme measures are necessary to control the patient.

During the year ending June 30, 1920, a total of 31,876 cases were reported by clinics, physicians and druggists. It is estimated that this represents less than 25 per cent of the number of venereally infected persons in the State of Illinois. It has not been the policy of the Division of Social Hygiene up to the present time to urge the prosecution of physicians and others for failure to report, it having been considered advisable to first disseminate information to the general public concerning the serious character of these diseases and their far-reaching after-effects. Unless the source of infection is named, the value of reports is, in a large measure, lost, and, in order that this information may be forthcoming, the voluntary or willing cooperation of the physician is necessary. Wholesale prosecution of physicians for failure to report would doubtless result in many more reports but in much less information concerning sources of infection, and, in the end, little would be accomplished.

Gonorrheal infection causes blindness in infants. Syphilis causes locomotor ataxia and paresis. It is frequently the cause of feeble-mindedness in children. It is conservatively estimated that 20 per cent of the inmates of State charitable institutions are in their present condition as a result of a venereal disease contracted or inherited. From an economic standpoint alone, the control of venereal diseases is justifiable.

The activities of the Division of Social Hygiene are divided into:

1. The treatment of disease carriers.
2. Repressive measures.
3. Educational measures.

and this report is divided under these general heads.

TREATMENT

Because of the lack of proper information concerning the serious character of and the ravages wrought by venereal diseases less than 50 per cent of venereally infected persons have been receiving proper treatment at the hands of competent medical men. The average physician, because of a disinclination toward this class of work, or because of the lack of time to give proper treatment, is reluctant to treat patients infected with venereal disease. The services of a specialist are beyond the means of many patients suffering with venereal disease, consequently some provision must be made for the treatment of a large number of patients who cannot provide it for themselves or who are attempting to treat themselves with patent medicines or with prescriptions passed from one to another. Rule 16 of the department regulations for the control of venereal diseases provides as follows:

Upon being advised of a case of venereal disease in any person who is unable to pay for the necessary medicines, medical attention or hospital care, local health authorities shall report the case to the overseer of the poor, who shall supply such medicine, medical attention and hospital care.

In the larger cities it has been found economical and more satisfactory to establish clinics for the treatment of such patients. At the close of the year 1919 clinics were in operation in the following cities: East St. Louis, Rockford, Decatur, Springfield and two in Chicago. During the year ending June 30, 1920, additional clinics have been established in the following cities: Alton, Cairo, Carlinville, Chicago Heights, Litchfield, Moline, Peoria, Rock Island, Waukegan, West Hammond and five in Chicago. With the exception of Rock Island and those in Chicago, the Division of Social Hygiene has provided equipment for all these clinics. Clinical equipment remains the property of the Department of Public Health and is loaned to the various clinics under a contract which provides that the Division of Social Hygiene shall have general supervision over clinics and that no change in management or policy shall be made without the consent of the division. The operating expense of clinics is borne jointly by the Division of Social Hygiene and the communities in which clinics are located. In most instances the local expense is cared for by the city and county jointly or by voluntary contribution made by individuals and industries. In the case of the Rock Island clinic, equipment was provided by the Rock Island County Board of Supervisors and the operating expense is borne by the board, a monthly subsidy being paid by the division. Chicago clinics have been equipped by the Chicago City Health Department, which department also provides quarters. A monthly subsidy is paid each of them by the Division of Social Hygiene.

It is the policy of the Division of Social Hygiene to operate clinics in such a manner as to not pauperize the public or infringe upon the legitimate practice of any physician.

The following is a brief summary of the activities of clinics during the year ending June 30, 1920:

CLINIC SUMMARY

	Male.	Female.
Patients hospitalized	908	452
Number patients discharged.....	1,561	1,063
Number patients discontinuing treatment.....	2,500	796
Number patients placed in detention.....	40	20
		<hr/>
Total number cases of disease treated.....		30,005
Total number of patients treated.....		28,984
Total number treatments administered (including arsphenamine).....		98,754
Number Wassermann tests.....		13,090
Number of microscopic examinations for the treponema pallidum.....		878
Number of microscopic examinations for the gonococcus.....		8,732
Number of doses of arsphenamine administered.....		16,819

During the year ending July 1, 1920, 12,797 ampules of arsphenamine, the drug used in the treatment of syphilis, have been distributed to clinics; 734 ampules to overseers of the poor; and 952 ampules to

physicians for the treatment of patients who were unable to obtain the drug but who had made a satisfactory arrangement to compensate the physician for administering it.

The following is a tabulation of venereal diseases reported to the Illinois Department of Public Health for the year ending June 30, 1920:

REPORTED CASES OF VENEREAL DISEASES

Age:		Jail	30	
1-12.		Elsewhere	211	6,910
12-16.				
16-20.		Source of Infection:		
20-30.		Inherited	63	
30-40.		Contracted	942	
40-50.		Investigated	729	1,734
50 and over.				
Sex:		Stage:		
Male	5,429	Primary or acute.....	3,888	
Female	1,481	Secondary or subacute..	1,354	
	6,910	Tertiary or chronic....	1,668	6,910
Color:		Social Status:		
White	6,182	Single	4,290	
Black	728	Married	2,073	
	6,910	Widowed	325	
Occupation:		Divorced	222	6,910
Clerk	569	Place:		
Chauffeur	106	City	5,728	
Cook or waiter.....	148	Town	1,182	6,910
Laborer	2,554	Laboratory Findings:		
Idle	1,067	Positive	4,943	
Farmer	329	Negative	237	
Stenographer	35	None	1,730	6,910
Miscellaneous	1,905			
	6,910	Patients under treatment.....	6,910	
Residence:		Handling foodstuffs	333	
Home	4,779	Discontinued employment	370	
Boarding house	1,454			
Hotel	230			
Hospital	67			
Institution	139			

Number complete reports received from physicians, from which above tabulation was made..... 6,910

Number incomplete reports received from physicians, druggists, State institutions, clinics, and the Chicago City Health Department..... 24,966

Total cases reported for the year ending June 30, 1920..... 31,876

Total cases reported for the year ending June 30, 1919..... 16,915

Increase 14,961

By correspondence with physicians, by personal interviews and by talks to county medical societies, representatives of the division are constantly endeavoring to secure the voluntary cooperation of physicians in reporting, and reports are being received in constantly increasing numbers. Physicians are coming to realize that a license to practice medicine conferred by the State carries with it an obligation which can be best discharged by contributing in every possible way toward the protection of the public health, and in order that the public health may be conserved, communicable diseases must be promptly reported to health officials.

REPRESSING ACTIVITIES

It will be admitted that to prevent the spread of venereal disease, two things must be accomplished, that is, the cure or rendering noninfectious of every carrier and the prevention of contact between healthy

and diseased persons. Jurisdiction of public health departments in striving to accomplish the first proposition will not be questioned. In an attempt to prevent the contact between healthy and diseased persons, considerable opposition is met.

It will also be admitted that there is not a more certain and successful method of preventing the spread of syphilis and gonorrhea than by minimizing the opportunity of exposure to these diseases. Public prostitution is admittedly the most prolific source of venereal disease since reliable data gathered in every community demonstrates without possibility of refuting that a high percentage of all prostitutes are infected with syphilis or gonorrhea or with both. It would seem to be a matter of extreme importance to health officers to prevent this disease spreading business. Laws and ordinances against prostitution, professional and clandestine, have been on the statute books for years. They were placed there in compliance with public opinion and by duly constituted legislative bodies. These laws should receive the same respect from officers who have sworn to obey the law as do laws for the protection of person and of private property. Until the law is changed or repealed, all citizens have a right to demand that laws directed against prostitution be rigidly enforced.

Cooperation of city and county officials is essential to the complete success of venereal disease control. Such cooperation was readily obtained while the country was at war because the elimination of venereal disease was looked upon as a patriotic measure. With the return of peace there has been a regrettable tendency on the part of many civil officials to relapse into their former state of disregard concerning the apprehension of disease spreading prostitutes. Since venereal diseases are far more dangerous and far more destructive than any other of the much feared contagious diseases, it would seem that public health officials and officials generally should be as energetic in their efforts to suppress the venereal disease carrier as they are in suppressing carriers of such diseases as smallpox, diphtheria and scarlatina.

During the past year the division has attempted to keep alive the interest of civil officials and the general public in the repression of commercialized vice but has encountered a feeling of indifference, no doubt due to a reaction which was to be expected following the strenuous activities occasioned by the World War. Officers of the division have made numerous investigations into vice conditions in all parts of the State and these conditions have been materially improved. In the absence of direct legislation requiring medical examination of all persons arrested under conditions rendering them venereal disease suspects, and because of the inertia manifested by some part-time local health officials who are inadequately compensated for their services, many disease spreaders escape. Because of the inactivity of local health authorities, it has been

necessary to send investigators from the division to all parts of the State to follow-up and get under treatment reported sources of infection.

OPHTHALMIA NEONATORUM

Since ophthalmia neonatorum, commonly known as infants' sore eyes, is in nearly all cases the result of gonorrheal infection contracted at the time of birth, investigation of such cases properly becomes the work of the Division of Social Hygiene.

An Act for the prevention of blindness from ophthalmia neonatorum, approved June 24, 1915, renders the reporting of such cases by physicians and midwives obligatory. In accordance with the provisions of this act, the State Department of Public Health provides a prophylactic solution, which, if timely used, will in almost all cases prevent this disease.

During the past year five midwives and three physicians have been prosecuted under the Ophthalmia Neonatorum Act, all having been convicted.

EDUCATIONAL WORK

Before the institution of the venereal disease campaign, no attempt had ever been made to give the public reliable information concerning sex hygiene. In the teaching of modern physiology in public schools and high schools, little, if any, consideration is given to the physiology of the sex organs, consequently the youth of the country have been depending upon such information as they could get from their parents. On account of the natural embarrassment which has always accompanied any mention of facts bearing upon the sex relation, and because of ignorance concerning the proper method of transmitting such information to children without creating an abnormal curiosity, sex education has been sadly neglected.

The Division of Social Hygiene has had neither authority nor desire to introduce sex education into public schools. Not every teacher can impart such instruction successfully and it is believed that a capable instructor in sex hygiene must be equipped by nature as well as by training. Lectures on the subject of sex hygiene and venereal diseases have been delivered to the general public, to teachers at their quarterly institutes, to segregated audiences of men and women employed in industries and in offices; to students in commercial colleges, in literary colleges and in military schools. These lectures have been illustrated by motion picture films depicting the effects of venereal disease and an audience of from two thousand to twenty-five hundred is not uncommon.

Placards giving information concerning venereal diseases have been posted in railway station toilets, in railway cars, in comfort stations, hotel and theatre wash rooms and in the wash rooms of large industrial plants and office buildings.

A "Keeping Fit" exhibit, which is shown to boys, has been displayed in 119 high schools in the State during the past year, making a total of 243 showings and reaching 50,951.

That the interest of the general public in sex hygiene has been permanently aroused is evidenced by the continued requisitions which have been received for pamphlets dealing on this subject. During the past year a total of 654,205 pamphlets have been distributed.

In an effort to arouse the interest of the medical profession in the proper treatment of venereal diseases, two motion picture films have been secured. These films deal with the diagnosis and treatment of syphilis and gonorrhea and will be shown at meetings of the various county medical societies.

Treatment and repressive measures are considered necessary in the control of venereal diseases but permanent and lasting benefits can only accrue through educational measures. Much consideration is being given to the preparation of a course of study which may be gradually introduced into public schools.

EDUCATIONAL SUMMARY

Number lectures given.....	572	
Attendance		97,357
Number times slides and charts shown.....	322	
Attendance		49,387
Number film showings without lecture.....	126	
Attendance		18,112
Total attendance		164,856
Cities rated	37	
Number of cities under 10,000 visited.....		183
Number of cities 10,000 population and over.....		269
Total		452

Report of
**THE DEPARTMENT OF TRADE AND
COMMERCE**

From July 1, 1919, to June 30, 1920

THE DEPARTMENT OF TRADE AND COMMERCE

WILLIAM H. BOYS, *Director.*

JAMES S. BALDWIN, *Assistant Director*

FRED W. POTTER, *Superintendent of Insurance*

WALTER E. SCHMIDT, *Chief Grain Inspector*

JOHN G. GAMBER, *Fire Marshal*

ROBERT F. ADAMS, *Superintendent of Standards*

PUBLIC UTILITIES COMMISSION

JAMES H. WILKERSON, *Chairman*

FRANK H. FUNK

WALTER A. SHAW

THOMAS E. DEMPCY

P. J. LUCEY

Commissioners

R. ALLAN STEPHENS, *Secretary*

JOHN D. EDMISTON, *Superintendent of Inspection, East St. Louis*

THE DEPARTMENT OF TRADE AND COMMERCE

WILLIAM H. BOYS, *Director*

GENERAL OFFICE

Three full years of the administration of the laws of Illinois relating to duties and official acts required to be done or performed under the direct supervision of the Governor, translated through terms of service to its citizens by means of the Civil Administrative Code, have more than ever justified the enactment of such a law. Never in its history has Illinois experienced such a trying period. Notwithstanding the fact that a great world war has been waged and ended and that the consequent turmoil of its citizens and inflation of values and prices have operated alike to distract orderly and well considered procedure in governmental affairs, yet the work of the Governor's department has been performed more efficiently and more economically than ever before. The transaction of public business has been expedited; and the inquiring public has found its officials accessible and ready to serve it acceptably and well.

It is difficult to portray graphically upon the printed pages of an annual report the work of a department having to deal with trade and commerce, and, therefore, the record of the approval or disapproval of its work must of necessity remain with those with whom it has transacted business. The fixed policy of this department has been to proceed unostentatiously in the performance of the duties entrusted to it, with an eye single to render the greatest possible service to the people of the State at the minimum of expense and inconvenience.

The work of the respective divisions allocated to this department is reflected properly in their several annual reports, which appear in the following pages and to which reference is invited. Those in charge of these divisions have been quick to follow suggestions offered for the betterment of service to be rendered and have been aggressive in the advancement of new and progressive ideas along their several lines. It is, however, proper and fitting that the financial operations of the department, as a whole and by divisions, be set forth in clear and concise tables, which may in a measure demonstrate the efficiency with which its duty has been performed.

The tables hereinafter presented cover the first year of the biennium. It will be observed that this department collected from all sources \$3,378,818.42 more than was actually expended by the department, and \$3,258,437.66 more than was appropriated by the legislature for the

purpose of conducting its business. The appropriations, however, do not include salaries paid to State officers. An examination of the appropriation account for the period covered by this report discloses that out of a total of \$900,130 appropriated, the department saved \$120,381, or about 13 per cent. The tables follow:

STATEMENT OF COLLECTIONS AND EXPENDITURES—JULY 1, 1919, TO JUNE 30, 1920.

	Collections.	Expenditures.	Balance.
General Office.....	\$ 6,804 52	\$ 12,715 87	\$ 5,911 35—
Division of Insurance.....	3,549,571 79	90,541 96	3,459,029 83
Division of Chicago Grain Inspection.....	254,453 20	252,972 24	1,480 96
Division of East St. Louis Grain Inspection.....	31,885 58	32,102 18	216 60—
Division of Fire Prevention.....	110,817 75	73,658 17	37,159 58
Division of Public Utilities.....	205,034 82	317,753 82	112,724 00—
Total.....	\$4,158,567 66	\$779,749 24	\$3,378,818 42

NOTE.—Collections credited to the Division of Fire Prevention were collected and remitted by the Division of Insurance.

Expenditures do not include salaries paid to State officers.

The minus sign opposite the above figures indicates that the division operated at a loss.

APPROPRIATION ACCOUNT—JULY 1, 1919, TO JUNE 30, 1920.

	Appropriation.	Expenditures.	Balance.
<i>By standard accounts—</i>			
Salaries and wages.....	\$630,380	\$594,752	\$35,628
Office expenses.....	52,025	44,378	7,647
Travel.....	78,200	70,021	8,179
Operation.....	4,650	4,148	502
Repairs.....	5,625	3,116	2,509
Equipment.....	10,500	5,804	4,696
Contingencies.....	17,000	532	16,468
Services and expenses for investigations and inspections (Fire Prevention).....	6,500	1,725	4,775
Valuations and investigations (Public Utilities).....	50,000	26,349	23,651
Printing.....	45,250	28,924	16,326
Total.....	\$900,130	\$779,749	\$120,381
<i>By divisions—</i>			
General Office.....	\$ 33,220	\$ 12,716	\$20,504
Division of Insurance.....	98,260	90,542	7,718
Division of Chicago Grain Inspection.....	276,580	252,972	23,608
Division of East St. Louis Grain Inspection.....	34,170	32,102	2,068
Division of Fire Prevention.....	100,330	73,658	26,672
Division of Public Utilities.....	357,570	317,759	39,811
Total.....	\$900,130	\$779,749	\$120,381

DIVISION OF INSURANCE

FRED W. POTTER, *Superintendent of Insurance*

The duties of supervising officials relating to insurance matters in Illinois have been of increasing importance as the years have come and gone. Illinois is regarded as the third state of consequence in insurance matters, and its rulings, methods of procedure and many of its laws have been followed to a great extent in other states.

The greatest volume of new business in the history of insurance was written during the last three years. With reference to the field of life insurance alone, Mr. William A. Day, president of the Equitable Life Assurance Society of New York, in an address delivered at the thirteenth annual meeting of the Association of Life Insurance Presidents, stated:

In round millions, the volume of new insurance which life insurance companies have induced the people to take during the year 1919 promises to reach the enormous total of \$7,712,000,000. This is \$3,010,000,000, or 64 per cent more than was written last year. It is nearly \$4,613,000,000 more than was written in the year 1914, or an increase of 149 per cent.

Illinois has undoubtedly contributed its proportionate share of this new business. While the figures relating to advances in other lines of insurance are not obtainable at this time, it is believed to be a fact that they also have greatly increased, and it may be truly said that no longer does insurance affect a single or limited group or groups of our citizens, but reaches to the doorstep of every household and is necessarily becoming a matter of more or less concern to every individual citizen.

The following table of premiums paid in this State indicates approximately this increasing interest in Illinois:

	1917.	1918.	1919.
Fire	\$34,725,986.44	\$39,570,676.64	\$40,982,324.17
Life	64,963,861.94	70,185,410.69	80,000,000.00 (Est.)
Casualty	18,748,071.09	22,780,428.12	27,500,000.00 (Est.)

Whatever may be the individual opinion of this division concerning the present methods of supervision and regulation of insurance companies and of their operations by fifty different supervising officials, with almost as many varieties of laws, it should be noted that the tendency of officials of insurance companies in recent years to inform their memberships and their policyholders, by means of proper and elaborate methods of publicity, many and varied in extent, of the character and manner of the conduct of their trusteeships and of their policyholders'

and members' trust funds, has done much to render unnecessary otherwise restrictive provisions relating thereto. These officials should receive their full share of credit for the advance that has been made along these lines.

So long as the view obtains that the business of insurance is not "commerce" within the purview of the United States Constitution, state regulation will and must prevail; and there is much to be said in its favor, even though the view of the Supreme Court of the United States may in the future be otherwise. Supervising officials are honest, well-intentioned, and desirous of protecting citizens of their respective states who have been induced, or from necessity required, to enter into contracts of insurance. At the same time, it should not be, and is not, their purpose to hamper or prevent proper and legitimate growth of the institutions supplying this very necessary and vital thing to the people. The actions from time to time of the National Association of Insurance Commissioners in their endeavor to obtain uniformity of laws upon given subjects, together with the plain and fair methods now obtaining by the officials of large companies in opening to the light of day their transactions with reference to the surplus and other trust funds of their companies, have done much towards restoring the confidence of the people in these important institutions; and the people are showing their approval of these methods by a significant vote of confidence manifested in the stupendous volume of new insurance which is being written and increased year by year.

Since 1907 no one session of the General Assembly has produced more beneficial legislation designed in the interests of the three parties to an insurance contract, viz., the State, the insurer, and the insured, than the session which closed in June of 1919. It is a difficult task to obtain wholesale legislation in insurance matters, as there are so many interests affected, and the problem of securing agreements is often insurmountable. Obviously, then, if desirable legislation is required, it must needs appear piecemeal and be considered upon its individual merits without always receiving the attention it should have in its relation to the general subject of insurance legislation.

CONSOLIDATION ACT

Perhaps one of the most notable achievements accomplished along this line at the last session was the passage of the act regulating consolidations and reinsurances. This State previously had a similar law applying to life companies only; but for consolidations of other kinds of companies resort was had to the methods of procedure applicable to ordinary corporations. It is true also that no legal method was provided for the consolidation, merger or reinsurance agreements of fraternal societies, although many attempts to effect such agreements had been made, and the identity of the societies extinguished. The act now passed provides for such agreements among fraternal societies, and is held by our courts to be

void. Many millions of dollars of insurance to dependents of the members of these societies were in jeopardy. The enactment of this law was believed necessary to prevent the payment of large commissions and fees heretofore obtaining for the perfection of such agreements.

These were some of the reasons which caused the act in question to be prepared and urged for passage at the last session. Under the law all future agreements of this character will receive the strict scrutiny of the supervising officials, to the end that every interest, and particularly that of the insured, shall be adequately safeguarded. The procedure for the consummation of these undertakings is comparatively simple and yet of such a character that every interest vitally affected thereby will have full and complete opportunity for expression in apt time.

The experience of the division thus far indicates that results have been very beneficial, and the law is generally regarded as a wholesome piece of legislation.

"BLUE SKY" LAW

For many years the law with respect to the formation and organization of insurance companies has not provided for such measure of supervision during organization as was believed consistent with good business judgment, in that it failed to provide means for the protection of investors in the capital stock of such companies. Many applications for charters were filed, as subsequent developments disclosed, only with the intention of selling stock and without seriously considering the advisability of ever engaging in the business of underwriting.

This condition of affairs became more or less acute during the past three years. Accordingly a bill was prepared and presented at the last session of the General Assembly for enactment into law. Its provisions met the very ready approval of the legislators and it became a law of the State. The law is not entirely free from defects and perhaps in isolated cases does not fill the need adequately, yet as a whole the benefits derived from its enforcement are far-reaching.

The present law does not make sufficient distinction between companies actually in process of organization and those already licensed to operate. The same form of subscription blank and wording to be incorporated therein are applied to both classes, although they are not equally appropriate. The experience of the division under the operation of this law evidences the necessity of providing safeguards if possible in order that the intent of the act in regard to limitation of expenses of organization may not be circumvented through the sale of the entire capital stock, or large blocks thereof, to parties either directly or indirectly affiliated with the promoters, and the subsequent resale by such parties to the general public. It may be observed also that the restriction of expense of organization under the present law (being 15 per cent of the par value of the capital stock) applies only to such stock of domestic

companies as is sold within this State. In the judgment of the division this limitation of expense should apply alike in other states where stock of the company is sold, on the theory that the net surplus realized from the sale of the entire capital stock, which accrues in the same degree to the stockholders of this and other states, may be conserved.

IMPAIRMENT ACT

At the same session was passed a law with reference to the impairment of capital stock and surplus of life companies, which has proved of immense value to the supervising official in the performance of his duty. In this connection attention should be called to the necessity for an amendment to the Legal Reserve Standard Provisions Act with reference to surrender and non-forfeiture value of life contracts. At the present time this act requires such values to be based on the reserve of a policy. This reserve would include the reserve on additional accidental death and total or permanent disability benefits included in the policy, which, under the forms of benefits now granted by some companies, are of considerable amount. It is generally recognized that surrender values should not be granted under such benefits, and present day policies, specimens of which are filed with the department, do not make provision therefor. To avoid uncertainty as to the liability of a company thereunder, the law should be amended to exempt specifically the reserves from such benefits and from being subject to surrender values. The law should also be amended to require that loan surrender and non-forfeiture values be based upon the reserves which the company is accumulating in accordance with the valuation law and the terms of its policies. There is some doubt as to the wording of the present law in this respect and this doubt should be removed.

AGENTS' QUALIFICATION LAW

An attempt was made to secure an agents' qualification law during the last session of the General Assembly. Most states have such a law. It requires the department having charge of insurance to pass upon the qualifications of an agent preliminary to issuing him a license. Whether or not such a law should be enacted in this State may rest in opinion. It does seem very desirable, however, that power should be given to the Division of Insurance to cancel a license or to refuse a license in any particular case for "just cause," giving the interested parties affected by such proceeding ample opportunity to be heard. If such power were given to the division, a proper exercise thereof would have the tendency at least to discourage agents from "selling themselves" rather than selling the policy contract and would thereby eliminate the annoyance to companies and supervising officials of correcting erroneous impressions received by policy holders in accepting the statements of overly ambitious salesmen instead of reading their policy contracts.

GENERAL INVESTMENT AND DEPOSIT ACT

The laws with reference to deposits by insurance companies with the State should be completely revised into one general law applying so far as possible to all companies without respect to the different branches of insurance written by them. When it is known that upwards of \$20,000,000 of such deposits are held by the State, the necessity for a clear, concise and yet comprehensive measure of this kind is obvious. The law might with propriety define the character of permissioned investments of insurance companies, as well as the procedure for the deposit, withdrawal and replacement of securities required to be so deposited. Such a bill, if presented to the next session, should receive its most careful consideration.

ASSESSMENT ASSOCIATIONS

The experience of the division has clearly demonstrated, to its officials at least, that operations of assessment associations under the present act of 1893 are not at all satisfactory. It is confidently believed that no such association should be permitted to operate except on a basis of rates and accumulation of reserves adequate to perpetuate its contracts. In order to discourage the future formation of companies of this character a bill was prepared and introduced in the last session. This was known as House Bill No. 598. It provided that the approval of certificates of associations of persons organized for the purpose of transacting life or accident business on the assessment plan should be prohibited, and also that the licensing of such organizations from other states to engage in that business in this State should be denied. The bill did not pass. If these associations were required to charge adequate rates and accumulate proper reserves in accordance with a recognized standard, they would practically be mutual legal reserve life companies and therefore subject to the restrictions applying thereto. Accident and health associations desiring to operate on an assessment basis may be incorporated under the Mutual Casualty Act now on the books. If a bill similar to that introduced at the last session is not passed at the next session, the present law should be so amended as to provide for a more stringent test of solvency. The existing law is decidedly faulty in this respect. The continuance of associations which are insolvent under recognized standards has been permitted and no power is given to restrain them.

In the same connection it should be observed that if amendatory enactments only in matters of this kind are to prevail at the next session, then before a license may issue, such an association should be compelled at all times to have a minimum membership equal to the number of charter members required under the law. By the present act no provision is made for the maintenance of a minimum membership except at the time application is made for a charter, and associations with memberships entirely inadequate to insure success are now operating

in this State. For example, at the close of 1919, one such association reported 17 policies in force, and another 127.

FRATERNAL BENEFICIARY SOCIETIES

At the last session of the General Assembly of this State fraternal beneficiary societies were by appropriate legislation permitted to issue certificates to their members affording paid up, extended insurance and withdrawal equities; provided, however, such societies were shown to be operating upon a sufficient rate to create the necessary reserves. This brings to our attention the need of some beneficial legislation in this State concerning fraternal societies. A number of years ago a uniform adequate rate bill was agreed upon at the National Association of Insurance Commissioners, composed of the supervising insurance officials of the various states. Through the untiring and devoted efforts of this association much beneficial legislation relating to insurance has been placed upon the statute books of the states. It is fair to assume that this measure was a meritorious one and deserved favorable consideration at the hands of the legislative bodies of the respective states. About thirty states have adopted the act as agreed upon. A like bill would warrant favorable consideration by the legislature of Illinois, and no doubt opportunity to consider such legislation will be given the next General Assembly. In the event such a law is not passed at the next session, then legislation should be enacted which is designed to prevent the further organization of fraternal societies in this State and to prevent the operation in this State of newly formed societies of other states unless and until such societies provide at the inception thereof that their members be charged an adequate rate, which shall not be less than that known as the National Fraternal Congress Table of Rates.

FIRE INSURANCE

The laws of this State pertaining to fire insurance are but a conglomeration of a number of acts passed at various sessions of the legislature since 1869 and occupy 47 printed pages of the statutes. These laws should be carefully revised and the material parts thereof incorporated, with more progressive ideas on this subject, into a fire insurance code. When this is done, it may be quite opportune to consider carefully the question of supervision of rates charged by such companies in this State.

In 1918 the fire companies placed a so-called surcharge of 10 per cent on their premium rates in this State and thereby collected a large sum of money from insurants. An examination for a number of years past concerning the fire losses incurred in Illinois, in relation to the amount of premiums paid for the same period, indicated that the increase in rates which this surcharge operated to obtain for the companies was not necessary, but was, no doubt, collected for the purpose of making up losses accruing in other states. It was apparent that this method of

increasing rates by the companies operated unfairly upon the citizens of Illinois, and yet under the law as it now obtains there seemed to be no adequate method of affording relief therefrom. Many states have laws providing for supervision of fire insurance rates, and Illinois will sooner or later be brought to the necessity for such legislation.

SURETY COMPANIES

The laws of this State with reference to surety companies were compiled about 20 years ago and are not believed to be adapted to modern conditions surrounding the transaction of this business.

Since 1908, 30 such companies in this country have either failed, merged, reinsured or liquidated. Alone in the great fields of insurance, the fidelity and surety field is in most states without adequate statutory regulation. Reserve and other requirements adapted to casualty insurance have for years, in a makeshift way, been applied to fidelity and surety insurance.

The experience of the past ten years along this line is such that a change in our laws, with the end in view of adequately controlling this line of business, is now imperative. It is, therefore, recommended that a revision of our laws upon this subject be undertaken at the next session of the General Assembly, such revision to take the form of the most approved methods of modern times.

RECIPROCAL OR INTERINSURERS

In 1911, an act was passed by the General Assembly permitting the formation of Lloyds associations and reciprocal exchanges for the purpose of doing fire insurance business and providing for the issuance of licenses to such exchanges by the department. No power of supervision was given the department over these exchanges after they were licensed, nor was a test of solvency required. In 1913 an amendment to the Mutual Liability Corporations Act of this State was passed, which provided for the doing of liability insurance on the reciprocal plan. Because this amendment purported to amend an act dealing only with corporations, and did not amend the title of the act so as to cover mutual companies, there always has been grave doubt as to its validity.

Since the passage of these two laws, a very large number of exchanges have been organized in this State and several exchanges of other states have been licensed to do business in Illinois. The department can only issue licenses to these organizations, and after licenses are once obtained they operate practically as they please, and pay no fees or taxes to the State.

When the first act on this subject was passed in 1911, reciprocal insurance was in its infancy, but during the nine succeeding years this line of endeavor has grown rapidly and now covers a very large field. Some forty exchanges doing exclusively the business of insuring owners of automobiles against casualty are now operating in Illinois. Indeed,

such exchanges carry most of the automobile insurance of the citizens of this State. It is, therefore, deemed imperative that the legislation providing for such form of insurance should be carefully studied and our law revised to conform to the most approved and present day idea governing such insurance. This of necessity would include constant supervision by the department and the application of a solvency test. A bill designed to meet the most approved thought upon the subject has been prepared by the division and will be presented to the next session of the legislature for its consideration. It should be said in this connection that the proposed bill has been presented to the convention of Insurance Commissioners and has received, or will receive, its approval.

PRIVILEGE TAX LAW

At the session of 1919, the State of Illinois decided authoritatively to change its attitude with reference to the taxation of the insurance business by rescinding the Reciprocal Tax Law and enacting in lieu thereof a law providing for a direct privilege tax of substantially 2 per cent on the amount of premiums collected in this State. The law now obtaining has operated to increase very greatly the revenue from sources of this character. In the practical administration of this law, an insurance company, upon being licensed for the first time to operate in this State, is required to pay a privilege tax upon the basis of \$25 per month to the succeeding June 30, and thereafter the tax is based upon its premium receipts in the State during the preceding calendar year. In the case of a company admitted during the first six months of a calendar year, a tax is collected covering the intervening period to June 30, but there is no basis prescribed in the law for the computation of a tax by such company for the year succeeding the June 30, owing to the fact that there were no premium collections in the State by that company during the preceding calendar year. This matter should be taken care of by a proper amendment.

FINANCIAL REPORT

The increased amount of insurance written in this State during the past three years and the enactment of the new privilege tax law have greatly increased the revenues of this division over those obtaining in the preceding years. The following table indicates the nature, source and amount of collections by this division for the years ending June 30, 1918, 1919 and 1920, respectively:

	Year ending June 30, 1918.	Year ending June 30, 1919.	Year ending June 30, 1920.
Annual statements filed (fire, etc.).....	\$ 6,225 00	\$ 6,340 00	\$ 7,390 00
Annual statements filed (life).....	1,545 00	1,585 00	1,780 00
Charters filed.....	1,525 00	1,215 00	1,935 00
Agents' licenses (fire, etc.).....	87,147 50	85,887 00	95,480 00
Agents' licenses (life).....	18,378 00	21,029 00	24,758 00
Investigations and examinations.....	16,301 63	13,201 30	17,781 65
Lloyds and inter-insurers.....	578 00	456 00	686 00
Certificates of compliance, deposit and valuation.....	1,248 00	1,383 00	1,450 00
Taxes (fire, etc., reciprocal).....	194,674 65	217,240 19	354 68
Taxes (life, reciprocal).....	378,033 80	394,975 81	175,463 67
Fire Marshal tax.....	84,925 87	98,049 30	110,817 75
District, county and township mutual companies.....	236 00	235 00	234 00
Special agents (surplus lines).....	1,466 13	1,880 58	3,046 54
Assessment associations and fraternal societies.....	1,295 00	1,290 00	1,375 00
State licenses (reciprocal).....	4,789 00	5,144 00	2,258 00
Registering policies.....	6,420 50	8,036 50	13,115 00
Valuing insurance (life companies of Illinois).....	12,516 34	16,288 90	(Note)
Miscellaneous fees.....	3,226 24	3,635 65	3,335 97
Protested taxes.....	20,851 61	167,182 91	29,511 81
Interest on protest account.....	1,391 38		
Privilege tax.....			3,199,128 28 (Note)
Total.....	\$842,874 65	\$1,045,055 14	\$3,689,901 35

NOTE.—No receipts for valuing insurance are shown for 1920 for the reason that none were received during the fiscal year reported upon. However, \$18,890.87 was received from this source after July 1, 1920.

The amount \$3,199,128.28 shown to have been collected as a privilege tax during the year ending June 30, 1920, includes about 60 per cent of the tax due for the year beginning July 1, 1920, owing to the fact that many companies paid their taxes in advance and before the time fixed by law as the date of payment, and therefore the amount shown to have been collected does not properly reflect the amount due for the period ending June 30, 1920.

DIVISIONS OF GRAIN INSPECTION AT CHICAGO AND EAST ST. LOUIS

WALTER E. SCHMIDT, *Chief Grain Inspector*, Chicago

JOHN D. EDMISTON, *Superintendent of Inspection*, East St. Louis

The past year, so far as these divisions are concerned, has been free from occurrences outside of routine business. The receipts of grain, both at the Chicago and East St. Louis gateways, for the fiscal year ended June 30, 1920, were considerably less than those for the year preceding. For this condition several substantial reasons may be advanced; namely, the shortage of railroad equipment, the congested condition of the railroad terminals at Chicago and Atlantic seaboard cities, and the switchmen's strike, which for a time assumed conditions approaching great seriousness.

The United States Food Administration Grain Corporation distributed the greater portion of the wheat destined for home consumption direct from the country elevators to the flour mills. A large percentage of this wheat formerly passed through Chicago. Then, too, a considerable amount of the grain which formerly went to Chicago and from there to foreign ports was routed via gulf ports.

During this period the railroads were under the supervision and management of the Federal Government. In order to facilitate the movement of all classes of freight, the Government created new distributing terminals and changed the routing of shipments from channels hitherto obtaining. This was done upon the theory that such innovations would relieve the congestion. Whether or not substantially all the grain which the producers desired to market has been delivered is not definitely established as a fact. But there can be no doubt that the changed procedure of the railroads in the respects above noted has resulted in materially reducing the receipts of grain in the Chicago market, and this was reflected in the income for the year reported upon.

Notwithstanding the fact that the appropriations for the grain offices at Chicago and East St. Louis were increased for the present biennium over those obtaining for the same purpose during the preceding biennium, when it became apparent that receipts for inspections were greatly reduced by reason of lessened grain shipments in and out of these terminals, by the practice of strict economy, the operating expenses of these divisions were kept substantially below the income, the Chicago office showing a profit of \$1,480.96 and the East St. Louis office a loss of \$216.60.

During the preceding years since there has been Federal supervision of grain, there have been periodic seasons of apparent conflict between the Federal supervisors and the State inspectors. The matter became more or less acute at the close of last year, but during the summer of 1919, after several conferences of representatives of interested parties all difficulties were "ironed out," since which time substantial unanimity has obtained between the State and Federal agencies. It was believed that disturbances of this character heretofore arising were largely the result of the personnel of the respective departments.

These divisions have been informed by representatives of the trade throughout the State and of the Board of Trade in Chicago and the Merchants Exchange in St. Louis that the services rendered them in the State of Illinois by these two divisions were uniformly prompt, courteous, and accurate to a remarkable degree.

For the reason that not much of interest peculiar to the market at Chicago or at East St. Louis has developed during the past year, the general reports of these two divisions have for convenience been consolidated.

In cities of 100,000 or more, the grain elevators are denominated class "A" elevators, and these are required to make application to the Public Utilities Commission for permission to engage in the business. If their petitions are granted, they are required to furnish satisfactory bonds to the commission for the benefit of those dealing with them, the bonds inuring to the benefit of the interested parties, and conditioned upon the faithful adherence to the law by the elevators.

In St. Clair County, in which is located East St. Louis, there is no city of 100,000 population, and therefore all grain elevators there are what are called class "B" elevators. Class "B" elevators are not required to obtain permission to engage in business, and neither are they required to furnish bonds conditioned upon adherence to the law.

The law provides that the Director of this department shall register all warehouse receipts from both class "A" and class "B" elevators, and no grain against which receipts are outstanding can be removed from these elevators until such receipts have been registered for cancellation by the Director of this department, operating through the registrar. Thus it is designed to protect innocent holders of warehouse receipts for grain.

Because of the fact that class "B" elevators are not under the control of the Public Utilities Commission and are not required to obtain the consent of anyone to engage in business, there is not adequate assurance that the receipts issued by such elevators are accurate, nor does the law provide any adequate means for verifying the same; yet the Director is required by law to register such receipts, thus holding out to innocent holders an apparent verification of the fact that there is grain stored against those receipts of the quality and quantity as therein

stated. This should not be. Either the law should be amended to provide that class "B" elevators make application to the Public Utilities Commission for permission to engage in business and furnish sufficient bonds guaranteeing their adherence to the law and the rules and regulations applying to the storage of grain, or the Director of this department should be relieved of the requirement to apparently validate, in his official capacity, the warehouse receipts issued by class "B" elevators.

The following tables will, in a statistical way, give some appreciation of the work done by the respective divisions:

CHICAGO DIVISION

EXHIBIT 1—NUMBER OF CARS OF DIFFERENT KINDS OF GRAIN RECEIVED OR "IN" INSPECTION, VIA RAILROADS, JULY 1, 1919—JUNE 30, 1920

Month.	C., B. Q.						C., R. I. & P.					
	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
July, 1919.....	1,506	358	702	117	63	2,746	542	487	675	29	262	1,995
August, 1919.....	3,550	206	388	134	44	4,322	1,446	467	762	54	107	2,836
September, 1919.....	2,809	458	165	61	29	3,522	1,532	848	588	22	202	3,192
October, 1919.....	1,304	548	271	94	52	2,269	626	342	760	37	110	1,875
November, 1919.....	378	585	243	43	54	1,303	210	253	279	25	89	856
December, 1919.....	179	736	445	96	79	1,535	116	598	390	21	98	1,223
January, 1920.....	150	452	775	103	82	1,562	87	815	402	44	68	1,416
February, 1920.....	88	369	538	59	54	1,108	61	598	283	33	39	1,014
March, 1920.....	50	413	255	65	47	830	32	648	293	28	87	1,088
April, 1920.....	23	119	175	36	49	402	6	93	46	11	19	175
May, 1920.....	43	267	302	53	91	756	16	291	234	18	82	641
June, 1920.....	64	664	211	55	59	1,053	22	540	153	18	60	793
Total.....	10,144	5,175	4,470	916	703	21,408	4,696	5,980	4,865	340	1,223	17,104

EXHIBIT 1—Continued

Month.	Chicago & Alton						Illinois Central (Main Line)					
	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
July, 1919.....	1,180	129	136	6	16	1,467	1,357	336	500	11	10	2,214
August, 1919.....	1,195	76	135	12	-----	1,418	2,581	146	317	20	-----	3,064
September, 1919.....	2,706	168	132	3	4	3,013	987	498	169	10	3	1,667
October, 1919.....	974	143	162	4	3	1,286	146	465	187	5	1	804
November, 1919.....	175	167	127	2	13	484	44	326	41	5	8	424
December, 1919.....	46	190	83	11	5	335	18	296	55	5	1	375
January, 1920.....	36	245	120	14	5	420	35	293	180	20	3	531
February, 1920.....	15	116	72	9	1	213	7	149	163	1	1	321
March, 1920.....	12	142	53	5	3	215	1	145	40	2	1	189
April, 1920.....	4	40	31	3	1	79	11	101	73	2	2	189
May, 1920.....	5	105	56	1	3	170	5	109	80	1	3	198
June, 1920.....	7	121	79	-----	2	209	20	233	100	4	3	360
Total.....	6,355	1,642	1,186	70	56	9,309	5,212	3,097	1,905	86	36	10,336

EXHIBIT 1—Continued

Month.	Illinois Central (Freeport Div.)						C. & N. W.					
	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
July, 1919.....	17	161	284	8	38	508	339	581	847	121	366	2,254
August, 1919.....	128	178	448	14	11	779	1,071	479	1,010	65	157	2,782
September, 1919.....	110	233	291	3	21	658	870	957	761	53	203	2,844
October, 1919.....	55	155	361	11	13	595	339	376	806	94	135	1,750
November, 1919.....	32	187	182	4	10	415	214	555	457	56	206	1,488
December, 1919.....	18	283	131	4	14	450	140	887	316	29	139	1,511
January, 1920.....	20	388	139	10	7	564	197	1,229	277	42	158	1,903
February, 1920.....	14	478	162	3	12	669	132	691	234	18	67	1,442
March, 1920.....	6	400	165	11	36	618	95	1,111	302	21	92	1,621
April, 1920.....	1	101	59	2	21	184	22	224	151	6	21	424
May, 1920.....	3	63	77	5	34	182	42	418	328	19	88	895
June, 1920.....	17	340	125	2	28	512	52	1,297	302	22	73	1,746
Total.....	421	2,967	2,424	77	245	6,134	3,513	9,105	5,791	546	1,705	20,660

EXHIBIT 1—Continued

Month.	Wabash.						C. & E. I.					
	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
July, 1919.....	852	102	200	15	1	1,170	881	102	150	12	1	1,146
August, 1919.....	898	32	115	16	1	1,062	774	63	212	21	---	1,070
September, 1919.....	1,503	162	82	11	---	1,758	1,039	215	145	17	---	1,416
October, 1919.....	460	162	98	15	---	735	501	262	159	6	10	938
November, 1919.....	156	256	80	9	---	501	151	216	59	6	---	432
December, 1919.....	42	177	90	25	---	334	11	357	94	4	---	466
January, 1920.....	33	102	127	20	---	282	10	132	50	5	---	203
February, 1920.....	19	90	117	7	1	234	2	55	42	5	---	104
March, 1920.....	8	102	55	9	1	175	---	86	21	4	---	111
April, 1920.....	2	19	17	3	1	42	1	10	6	---	---	17
May, 1920.....	2	52	35	8	---	97	2	57	19	5	---	83
June, 1920.....	22	110	111	12	---	255	3	84	25	5	1	118
Total.....	3,997	1,366	1,127	150	5	6,645	3,375	1,639	988	90	12	6,104

EXHIBIT 1—Continued

Month.	C., M. & ST. P.						Soo Line.					
	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
July, 1919.....	159	467	534	62	323	1,545	---	---	3	20	40	63
August, 1919.....	796	408	769	92	121	2,185	20	4	12	10	13	59
September, 1919.....	874	956	633	23	203	2,689	14	---	---	2	8	24
October, 1919.....	402	321	531	36	150	1,440	15	---	---	1	8	25
November, 1919.....	168	333	295	24	200	1,020	7	---	---	1	3	11
December, 1919.....	144	484	223	10	189	1,050	6	1	---	---	1	8
January, 1920.....	104	434	279	27	106	950	3	---	---	---	2	5
February, 1920.....	77	686	313	8	111	1,195	5	2	---	3	---	10
March, 1920.....	40	680	356	26	76	1,178	3	2	---	2	6	13
April, 1920.....	11	170	145	7	30	363	1	---	5	2	10	18
May, 1920.....	38	215	177	21	82	533	---	1	2	2	14	19
June, 1920.....	59	966	257	31	106	1,419	2	1	---	1	10	14
Total.....	2,871	6,120	4,512	367	1,697	15,567	76	11	22	44	116	269

EXHIBIT 1—Continued

Month.	C., G. W.						A., T. & S. F.					
	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
July, 1919.....	28	108	338	22	84	580	308	101	178	11	4	602
August, 1919.....	279	100	3 6	12	27	804	660	40	73	17	---	790
September, 1919.....	464	202	247	3	28	944	423	149	75	12	4	663
October, 1919.....	135	116	236	5	37	529	156	107	53	7	1	324
November, 1919.....	49	115	149	4	34	351	152	176	70	12	5	415
December, 1919.....	27	234	221	11	29	522	54	161	71	17	11	314
January, 1920.....	13	244	252	13	25	547	27	186	85	19	29	346
February, 1920.....	19	193	143	10	31	396	22	132	95	8	10	267
March, 1920.....	6	206	150	8	28	398	25	177	34	17	37	290
April, 1920.....	4	51	58	1	9	123	2	18	2	---	2	24
May, 1920.....	7	55	97	17	21	197	19	184	70	9	23	305
June, 1920.....	15	411	138	8	25	597	10	305	35	12	34	396
Total.....	1,046	2,035	2,415	114	378	5,988	1,858	1,736	841	141	160	4,735

EXHIBIT 1—Continued

Month.	E., J. & E.						N. Y. C. Lines.					
	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
July, 1919.....	27	36	51	---	4	118	262	71	81	24	---	438
August, 1919.....	85	13	28	8	3	137	460	20	79	49	1	609
September, 1919.....	47	47	29	---	4	127	142	95	73	16	---	326
October, 1919.....	24	14	23	5	4	70	29	96	57	11	---	193
November, 1919.....	7	20	4	---	1	32	18	128	28	11	---	165
December, 1919.....	5	58	11	2	7	83	9	103	48	9	1	170
January, 1920.....	1	63	33	3	6	106	5	38	46	14	1	104
February, 1920.....	4	7	23	1	1	36	2	29	57	1	---	89
March, 1920.....	3	16	9	1	---	29	4	59	33	3	---	99
April, 1920.....	1	9	20	1	1	32	---	4	1	2	---	7
May, 1920.....	3	21	20	---	1	45	---	16	---	2	---	19
June, 1920.....	3	39	17	1	---	60	---	27	1	2	---	30
Total.....	210	343	268	22	32	875	931	686	504	144	3	2,265

EXHIBIT 1—Continued

Month.	C., I. & L.						Grand Trunk.					
	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
July, 1919.....	86	4	2	8	---	100	42	1	---	1	---	44
August, 1919.....	189	1	2	17	---	209	68	---	6	14	---	86
September, 1919.....	43	1	3	9	---	56	10	---	2	1	---	13
October, 1919.....	5	---	---	4	---	9	11	---	1	2	---	14
November, 1919.....	10	23	---	4	---	37	4	2	---	3	---	9
December, 1919.....	2	4	---	3	---	9	3	1	1	---	---	5
January, 1920.....	---	---	1	5	---	6	---	3	---	3	---	6
February, 1920.....	---	1	3	1	---	5	1	---	1	---	---	2
March, 1920.....	---	1	1	3	---	5	---	---	---	1	---	1
April, 1920.....	---	---	---	5	---	5	---	---	---	2	---	2
May, 1920.....	---	1	1	2	---	4	---	---	---	1	---	1
June, 1920.....	2	1	---	1	---	4	1	1	---	2	---	4
Total.....	337	37	13	62	---	449	140	8	11	30	---	189

EXHIBIT 1- Continued

Month.	P., C., C. & ST. L.						C., T., H. & S. E.					
	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
July, 1919.....	32		5	7		44	15	9	19			43
August, 1919.....	193		18	8		219	30	13	4			47
September, 1919.....	28	10	1	4	1	44	15	20	5	1		41
October, 1919.....	7	6	10	1		24	2	24	14			40
November, 1919.....	5	6	3	2		16	1	11	5			17
December, 1919.....		28	14	4		46		18	4			22
January, 1920.....	1	2	4	5	2	14	1	16	23			40
February, 1920.....			1	5		6		4	14			18
March, 1920.....		9		3		12		6	6			12
April, 1920.....				1		1		2				2
May, 1920.....		2				2		8				8
June, 1920.....		3				3		13	7		1	21
Total.....	266	66	56	40	3	431	64	144	101	1	1	311

EXHIBIT 1—Concluded

Month.	Specials.					
	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
July, 1919.....	187	17	26	14	3	247
August, 1919.....	480	1	37	79		597
September, 1919.....	168	2	17	19		206
October, 1919.....	68	4	20	10		102
November, 1919.....	25	30	11	4		70
December, 1919.....	11	42	19	7		79
January, 1920.....	14	27	21	5		67
February, 1920.....	2	5	10	1		18
March, 1920.....	6	19	9	4		38
April, 1920.....	1	6	2	2		11
May, 1920.....	5	27	17	5	6	60
June, 1920.....	11	80	11	3	4	109
Total.....	978	260	200	153	13	1,604

EXHIBIT 2—NUMBER OF CARS OF THE DIFFERENT KINDS OF GRAIN RECEIVED, OR
"IN" INSPECTION, JULY 1, 1919—JUNE 30, 1920

Month.	Winter Wheat.	Spring Wheat.	Corn.	Kaffir Corn and Milo Maize.	Oats.	Rye.	Barley.	Total.
July, 1919.....	7,518	302	3,018	52	4,731	488	1,215	17,324
August, 1919.....	12,257	2,645	2,214	20	4,810	646	485	23,077
September, 1919.....	12,344	1,440	4,994	27	3,418	270	710	23,203
October, 1919.....	4,577	682	3,092	49	3,749	348	525	13,022
November, 1919.....	1,444	362	3,376	13	2,033	215	623	8,066
December, 1919.....	526	305	4,600	58	2,216	258	574	8,537
January, 1920.....	416	321	4,520	149	2,820	352	494	9,072
February, 1920.....	257	213	3,767	138	2,271	173	328	7,147
March, 1920.....	209	82	3,953	269	1,782	213	414	6,922
April, 1920.....	56	34	920	47	791	86	166	2,100
May, 1920.....	112	78	1,656	236	1,515	169	448	4,214
June, 1920.....	191	119	4,933	303	1,572	179	406	7,703
Total.....	39,907	6,583	41,043	1,361	31,708	3,397	6,388	130,387

EXHIBIT 3--GRAINS NOT OTHERWISE CLASSIFIED, JULY 1, 1919--JUNE 30, 1920

EXHIBIT 3--Concluded

Railroad.	Seeds.	Shorts.	Sprouts.	Wild Oats.	Wild Oats and Barley	Flax.	Spelt.	Dried Buttermilk.	Sweet Corn.	Total
A., T. & S. F.	3									41
B. & O.										10
C. & A.	4			10	9					5
C. & E. I.	1									10
C. & N. W.	11	3	38	157	92					1,004
C., B. & Q.	10	2		59	38	1				104
C. G. W.	3		1	8	3		4			114
C. & I. I.										
C., M. & St. P.	39	3	12	28	47	1	4			502
C., T. H. & S. E.	1									1
Erie.										14
E., J. & E.										1
Grand Trunk			1							4
Illinois Central	1									5
I. C. Freeport Division	12			10	11					2
Michigan Central					1					1
N. Y. C.	2			1						1
N. Y. C. & St. L.	3									14
Pere Marquette						1				4
P., Ft. W. & C.										16
P., C. C. & St. L.										5
C., R. I. & P.	13		3	45	28			1	2	219
Soo Line	2		1	19						26
Wabash	1									9
Total	105	8	50	316	253	3	8	1	2	2,346

EXHIBIT 4—TOTAL "IN" INSPECTION BY RAILROADS, JULY 1, 1919—JUNE 30, 1920

Month.	C. B. & Q.	C. R. I. & P.	C. & A.	Main Line I. C.	Free- port Div. I. C.	C. & N. W.	Wa- bash.	C. & E. I.	C. M. & St. P.	Soo Line.
July, 1919.....	2,746	1,995	1,467	2,214	508	2,254	1,170	1,146	1,545	63
August, 1919.....	4,322	2,836	1,418	3,064	779	2,782	1,082	1,070	2,185	59
September, 1919.....	3,522	3,192	3,013	1,667	658	2,844	1,758	1,416	2,689	24
October, 1919.....	2,269	1,875	1,286	804	595	1,750	735	938	1,440	25
November, 1919.....	1,303	856	484	424	415	1,488	501	432	1,020	11
December, 1919.....	1,535	1,223	335	375	450	1,511	334	466	1,050	8
January, 1920.....	1,582	1,416	420	531	564	1,903	282	203	950	5
February, 1920.....	1,108	1,014	213	321	669	1,442	234	104	1,195	10
March, 1920.....	830	1,088	215	189	618	1,621	175	111	1,178	13
April, 1920.....	402	175	79	189	184	424	42	17	363	18
May, 1920.....	756	641	170	198	182	895	97	83	533	19
June, 1920.....	1,053	793	209	360	512	1,746	255	118	1,419	14
Total for 1919-1920.....	21,408	17,104	9,309	10,336	6,134	20,660	6,645	6,104	15,567	269
Total for 1918-1919.....	25,585	18,169	10,499	23,715	5,573	29,976	13,598	10,935	18,273	521
Total for 1917-1918.....	17,856	15,917	7,701	14,644	5,757	19,722	8,906	7,208	13,275	1,142
Total for 1916-1917.....	24,822	20,959	8,032	16,431	7,771	34,655	7,016	7,351	21,627	3,351
Total for 1915-1916.....	28,130	18,301	10,987	27,981	4,826	37,182	11,955	12,835	21,960	3,774
Total for 1914-1915.....	41,038	32,921	9,255	13,659	10,611	47,780	10,316	7,402	28,812	1,331
Total for 1913-1914.....	29,476	22,355	6,347	11,262	6,392	30,890	6,914	6,048	20,744	1,762
Total for 1912-1913.....	34,614	28,233	8,415	15,995	9,869	36,939	7,612	9,908	32,523	2,559

EXHIBIT 4—Concluded

Month.	C. G. W.	A., T. & S. F.	E. J. & E.	N. Y. C.	C. I. & L.	Grand Trunk.	P., C., C. & St. L.	C., T. H. & S. E.	Specials.	Total.
July, 1919.....	580	602	118	438	100	44	44	43	247	17,324
August, 1919.....	804	790	137	609	209	88	219	47	597	23,077
September, 1919.....	944	663	127	326	56	13	44	41	206	23,203
October, 1919.....	529	324	70	193	9	14	24	40	102	13,022
November, 1919.....	351	415	32	185	37	9	16	17	70	8,066
December, 1919.....	522	314	83	170	10	5	46	22	79	8,537
January, 1920.....	547	346	106	104	6	6	14	40	67	9,072
February, 1920.....	396	267	36	89	5	2	6	18	18	7,147
March, 1920.....	398	290	29	99	5	1	12	12	38	6,922
April, 1920.....	123	24	32	7	5	2	1	2	11	2,100
May, 1920.....	197	305	45	18	4	1	2	8	60	4,214
June, 1920.....	597	396	60	30	4	4	3	21	109	7,703
Total for 1919-1920.....	5,988	4,733	875	2,268	449	189	431	311	1,604	130,387
Total for 1918-1919.....	6,427	6,668	1,505	3,666	989	307	1,408	737	3,784	182,335
Total for 1917-1918.....	5,447	3,741	1,076	2,931	353	75	594	399	1,584	128,333
Total for 1916-1917.....	8,046	5,184	1,421	3,447	381	184	551	-----	1,824	173,083
Total for 1915-1916.....	7,757	7,408	1,430	3,700	1,348	213	1,355	-----	4,200	205,342
Total for 1914-1915.....	12,197	11,152	1,580	2,291	354	133	-----	-----	3,119	234,262
Total for 1913-1914.....	7,931	3,899	1,571	2,583	265	71	-----	-----	2,581	163,035
Total for 1912-1913.....	10,895	7,220	1,655	3,350	384	23	-----	-----	3,693	215,951

EXHIBIT 5—AVERAGE BUSHEL CONTENTS PER CAR OF GRAIN ON ALL RAILROADS FROM 1891 TO 1919, INCLUSIVE—ON ARRIVAL

	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
Wheat.....	614	619	650	660	758	772	779	812	887	945	954	1,004	1,063	1,070
Corn.....	628	668	700	740	687	700	747	783	867	925	985	1,062	1,120	1,146
Rye.....	601	612	650	650	649	652	721	735	802	910	989	970	1,042	1,043
Oats.....	1,048	1,096	1,100	1,150	1,192	1,218	1,150	1,155	1,277	1,036	1,447	1,432	1,392	1,454
Barley.....	729	785	800	815	803	807	767	801	852	915	983	1,046	1,094	1,140

EXHIBIT 5—Concluded

	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
Wheat.....	1,169	1,150	1,232	1,293	1,262	1,220	1,220	1,253	1,361	1,250	1,250	1,250	1,251	1,307	1,400
Corn.....	1,114	1,181	1,225	1,297	1,274	1,317	1,317	1,292	1,313	1,500	1,400	1,400	1,375	1,301	1,300
Rye.....	1,051	1,105	1,180	1,268	1,221	1,237	1,237	1,193	1,224	1,100	1,100	1,100	1,100	1,200	1,200
Oats.....	1,721	1,761	1,764	1,580	1,757	1,864	1,234	1,784	2,004	1,900	1,850	1,850	2,000	2,070	2,000
Barley.....	1,019	1,019	1,214	1,400	1,334	1,012	1,012	1,502	1,690	1,550	1,400	1,400	1,400	1,800	1,800

EXHIBIT 6—BUSHELS INSPECTED INTO LAKE VESSELS FOR SHIPMENT OR "OUT"
INSPECTION OF DIFFERENT KINDS OF GRAIN FROM PUBLIC ELEVATORS, JULY
1, 1919—JUNE 30, 1920

Month.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
July, 1919.....	98,221	222,874	307,000	503,476	50,000	1,181,571
August, 1919.....	1,150,227	100,844	318,242			1,569,313
September, 1919.....	4,053,862	9,379				4,063,241
October, 1919.....	321,562					321,562
November, 1919.....	539,013		120,925	181,473		841,411
December, 1919.....				150,760		150,760
January, 1920.....				230,600		230,600
February, 1920.....						
March, 1920.....						
April, 1920.....	40,000			199,758	158,299	397,057
May, 1920.....	972,258			212,489		1,184,747
June, 1920.....	490,124		315,763	235,013	223,000	1,263,900
Total.....	7,665,267	333,097	1,061,930	1,713,569	431,299	11,203,162

EXHIBIT 7—BUSHELS INSPECTED INTO LAKE VESSELS FOR SHIPMENT OR "OUT"
INSPECTION OF DIFFERENT KINDS OF GRAIN FROM PRIVATE ELEVATORS, JULY
1, 1919—JUNE 30, 1920

Month.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
July, 1919.....	1,135,733	75,000	1,950,200		222,050	3,382,983
August, 1919.....	11,390,344	64,000	1,643,555			13,097,899
September, 1919.....	8,259,365	27,020	50,000			8,336,385
October, 1919.....	2,408,247	197,000	65,000	47,000		2,717,247
November, 1919.....	2,067,072	59,496		100,000		2,226,568
December, 1919.....						
January, 1920.....						
February, 1920.....						
March, 1920.....						
April, 1920.....	488,499	25,428		478,639		966,566
May, 1920.....	1,935,864	176,249	192,953	40,000	21,704	2,366,770
June, 1920.....	1,275,780	81,000	31,000	22,700		1,410,480
Total.....	29,960,904	705,193	3,932,708	688,339	243,754	34,530,898

DIVISION OF GRAIN INSPECTION

711

EXHIBIT 8—NUMBER OF CARS AND BUSHELS OF DIFFERENT KINDS OF GRAIN "IN"
BY EACH PUBLIC ELEVATOR, JULY 1, 1919—JUNE 26, 1920

CARS AND BUSHELS "IN"

Elevators.	Wheat.		Corn.		Oats.		Rye.		Barley.	
	Num- ber cars.	Number bushels.	Num- ber cars.	Number bushels.	Num- ber cars.	Number bushels.	Num- ber cars.	Number bushels.	Num- ber cars.	Num- ber bushels.
Armour "A" & "B"	351	490,426	282	450,421	662	1,348,506	80	108,152	163	253,386
Armour "C"	395	554,207	184	257,012	305	626,401	146	214,786	47	74,297
J. Rosenbaum "A"	506	695,297			272	534,144	2	3,015	1	1,811
J. Rosenbaum "B"	2,575	3,673,173			1	2,871	20	21,901		
Rock Island "A"	1,578	2,156,288	14	19,155	52	102,696	8	8,576	6	9,536
Chicago & St. Louis	628	839,721			649	1,287,698	221	314,349	11	17,452
National	382	525,829	17	22,535	242	460,208				
Calumet "B"	46	60,899					728	1,053,821	16	23,171
South Chicago	3,068	4,289,260	505	710,881	524	1,047,678	254	342,781	51	75,483
Calumet "C"	1,230	1,807,077					42	61,094		
Total	10,759	15,092,177	1,002	1,460,004	2,707	5,410,201	1,501	2,128,475	295	455,136

RECAPITULATION—CARS AND BUSHELS "IN"

Total number of cars	10,759	and bushels of wheat	15,092,177
Total number of cars	1,002	and bushels of corn	1,460,004
Total number of cars	2,707	and bushels of oats	5,410,201
Total number of cars	1,501	and bushels of rye	2,128,475
Total number of cars	295	and bushels of barley	455,136
Total	16,264		24,545,993

EXHIBIT 9—NUMBER OF CARS AND BUSHELS OF DIFFERENT KINDS OF GRAIN "OUT"
BY EACH PUBLIC ELEVATOR, JULY 1, 1919—JUNE 26, 1920

CARS AND BUSHELS "OUT"

Elevators.	Wheat.		Corn.		Oats.		Rye.		Barley.	
	Num- ber cars.	Number bushels.	Num- ber cars.	Number bushels.	Num- ber cars.	Number bushels.	Num- ber cars.	Number bushels.	Num- ber cars.	Num- ber bushels.
Armour "A" & "B"	318	454,004	306	422,399	549	1,167,328	65	102,898	179	284,538
Armour "C"	174	246,677	263	334,428	257	519,234	108	157,997	226	369,694
J. Rosenbaum "A"	181	287,302			300	619,408	3	2,889	12	20,773
J. Rosenbaum "B"	980	1,586,097			1	2,872	14	21,904		
Rock Island	647	912,554	51	69,155	52	107,698	20	28,320	25	43,189
Chicago & St. Louis	281	373,155			568	1,183,054	98	146,620	68	99,248
National	160	227,765	15	22,540	209	394,286				
Calumet "B"	42	60,603	13	18,647	31	65,257	504	740,187	97	151,324
South Chicago	1,607	2,337,688	469	652,840	525	1,100,234	118	177,733	205	318,163
Calumet "C"	533	781,585					1	1,483		
Total	4,923	7,267,730	1,117	1,520,009	2,492	5,159,371	931	1,380,031	812	1,286,929

RECAPITULATION—CARS AND BUSHELS "OUT"

Total number of cars	4,923	and bushels of wheat	7,267,730
Total number of cars	1,117	and bushels of corn	1,520,009
Total number of cars	2,492	and bushels of oats	5,159,371
Total number of cars	931	and bushels of rye	1,380,031
Total number of cars	812	and bushels of barley	1,286,929
Total	10,275		16,614,070

**EXHIBIT 10—NUMBER OF BOATS AND BUSHELS OF DIFFERENT KINDS OF GRAIN "IN"
BY EACH PUBLIC ELEVATOR, JULY 1, 1919—JUNE 30, 1920**

Elevator.	Wheat.		Corn.		Oats.		Rye.		Barley.	
	Num- ber boats.	Number bushels.	Num- ber boats.	Number bushels.	Num- ber boats.	Number bushels.	Num- ber boats.	Number bushels.	Num- ber boats.	Num- ber bushels.
Armour "A" & "B"-----			2	23,203	13	454,811	12	319,679	9	87,395
Armour "C"-----			4	33,139	12	177,322	7	102,849	71	890,251
Total-----			6	56,342	25	632,133	19	422,528	80	977,646

RECAPITULATION—NUMBER OF BOATS AND BUSHELS "IN"

Total number boats	-----	and bushels of wheat	-----	
Total number boats	6	and bushels of corn	-----	56,342
Total number boats	25	and bushels of oats	-----	632,133
Total number boats	19	and bushels of rye	-----	422,528
Total number boats	80	and bushels of barley	-----	977,646
Total-----	130			2,088,649

**EXHIBIT 11—NUMBER OF BOATS AND BUSHELS OF DIFFERENT KINDS OF GRAIN "OUT"
FROM EACH PUBLIC ELEVATOR, JULY 1, 1919—JUNE 30, 1920**

Elevator.	Wheat.		Corn.		Oats.		Rye.		Barley.	
	Num- ber boats.	Number bushels.	Num- ber boats.	Number bushels.	Num- ber boats.	Number bushels.	Num- ber boats.	Number bushels.	Num- ber boats.	Num- ber bushels.
Armour "A" and "B"-----	1	24,256	14	228,890	24	667,104	15	480,891	10	96,177
Armour "C"-----	3	307,457	2	51,763	19	304,717	9	290,808	4	394,711
J. Rosenbaum "A"-----	11	407,902			1	20,000				
J. Rosenbaum "B"-----	26	2,074,758								
Rock Island "A"-----	18	1,237,747					3	55,353		
Chicago & St. Louis	8	436,859			1	30,000	4	166,070		
National-----	8	298,058			1	65,925				
Calumet "B"-----							10	708,001	1	50,000
South Chicago-----	22	1,852,792	5	153,779	8	477,112	8	461,531		
Calumet "C"-----	8	1,024,600					1	59,609		
Total-----	106	7,664,429	21	434,432	54	1,564,858	50	2,222,263	15	540,888

RECAPITULATION—NUMBER OF BOATS AND BUSHELS "OUT"

Total number boats	106	and bushels of wheat	-----	7,664,429
Total number boats	21	and bushels of corn	-----	434,432
Total number boats	54	and bushels of oats	-----	1,564,858
Total number boats	50	and bushels of rye	-----	2,222,263
Total number boats	15	and bushels of barley	-----	540,888
Total-----	246			12,426,870

**EXHIBIT 12—BUSHELS BY GRADES AND TOTAL OF ALL KINDS OF GRAIN ON HAND
IN ALL PUBLIC ELEVATORS JULY 1, 1920**

Elevator.	One Red Winter Wheat.	Two Red Winter Wheat.	Three Red Winter Wheat.	One Hard Winter Wheat.	Two Hard Winter Wheat.	Four Hard Winter Wheat.	Two Northern Spring Wheat.	Total.
Armour "A" and "B"		2,965	1,944			30	1,205	6,144
Armour "C"			73					73
J. Rosenbaum "A"		5,000			4,855			9,855
J. Rosenbaum "B"		30						30
Rock Island "A"		1,898						21,395
Chicago & St. Louis	19,497							
Calumet "B"								
National								
South Chicago "C"	3,734	19,599	46,575	30,571				100,479
Calumet "C"								
Total.....	23,231	29,492	48,592	30,571	4,855	30	1,205	137,976

EXHIBIT 12—Continued

Elevator.	Two White Corn.	Three White Corn.	One Yellow Corn.	Two Yellow Corn.	Three Yellow Corn.	Two Mixed Corn.	Three Mixed Corn.	Total.
Armour "A" and "B"					2,231			2,231
Armour "C"	228	1,988	347			53,046	11,468	67,077
J. Rosenbaum "A"								
J. Rosenbaum "B"								
Rock Island "A"								
Chicago & St. Louis								
Calumet "B"								
National								
South Chicago "C"	1,798	1,177		3,202		1,516	1,575	9,268
Calumet "C"								
Total.....	2,026	3,165	347	3,202	2,231	54,562	13,043	78,576

EXHIBIT 12—Continued

Elevator.	Two White Oats.	Three White Oats.	Total.
Armour "A" & "B"		31,705	31,705
Armour "C"	11,525	4,270	15,795
J. Rosenbaum "A"	12,665	36,379	49,044
J. Rosenbaum "B"			
Rock Island "A"			
Chicago & St. Louis	9,504	107,087	116,591
Calumet "B"			
National			
South Chicago "C"			
Calumet "C"			
Total.....	33,694	179,441	213,135

EXHIBIT 12—Continued

Elevators.	One Rye.	Two Rye.	Three Rye.	Four Rye.	Total Rye.	Two Barley.	Three Barley.	Total Barley
Armour "A" and "B".		4,405			4,405		72,560	72,560
Armour "C".	6,684	14,779	1,178	2,186	24,827	1,768	210,882	212,650
J. Rosenbaum "A".								
J. Rosenbaum "B".								
Rock Island "A".								
Chicago & St. Louis.								
Calumet "B".								
National.								
South Chicago "C".		29,373	14,406	1,164	44,943			
Calumet "C".								
Total.	6,684	48,657	15,584	3,350	74,175	1,768	283,442	285,210

EXHIBIT 12—Concluded

Elevator	Total Wheat.	Total Corn	Total Oats.	Total Rye.	Total Barley.	Grand Total.
Armour "A" and "B".	6,144	2,231	31,705	4,405	72,560	117,045
Armour "C".	73	67,077	15,795	24,827	212,650	320,422
J. Rosenbaum "A".			49,044			49,044
J. Rosenbaum "B".	9,855					9,855
Rock Island "A".	30					30
Chicago and St. Louis.	21,395		116,591			137,986
Calumet "B".						
National.						
South Chicago "C".	100,479	9,268		44,943		154,690
Total.	137,976	78,576	213,135	74,175	285,210	789,072

EXHIBIT 13—BUSHELS OF EACH KIND OF GRAIN IN STORE IN PUBLIC WAREHOUSES AT THE CLOSE OF BUSINESS EACH WEEK, FROM JULY 5, 1919 TO JUNE 26, 1920

Month.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
July 5, 1919.		250,025	944,763	773,209	765,278	2,733,275
July 12, 1919.		353,476	727,746	636,598	720,624	2,438,444
July 19, 1919.		339,396	586,016	654,221	635,500	2,215,133
July 26, 1919.	204,969	262,979	935,516	776,164	530,465	3,710,093
August 2, 1919.	463,475	224,834	1,278,792	890,263	392,532	3,249,916
August 9, 1919.	944,899	122,471	1,026,600	1,071,954	304,361	3,470,285
August 16, 1919.	783,279	52,721	1,018,118	1,178,841	207,010	3,239,969
August 23, 1919.	1,346,204	39,771	1,358,272	1,277,936	121,501	4,142,684
August 30, 1919.	2,734,061	24,529	1,904,994	1,339,510	92,240	6,095,334
September 6, 1919.	3,878,782	38,473	2,204,969	1,337,358	41,455	7,501,032
September 13, 1919.	4,329,461	93,789	2,512,766	1,361,672	23,873	8,321,561
September 20, 1919.	3,670,049	118,027	2,589,206	1,417,615	45,289	7,840,186
September 27, 1919.	2,941,487	322,619	2,681,986	1,422,898	94,837	7,463,827
October 4, 1919.	3,790,441	610,481	2,592,656	1,479,776	99,755	8,573,111
October 11, 1919.	4,760,796	425,708	2,489,310	1,490,496	98,878	9,265,188
October 18, 1919.	5,214,523	278,680	2,491,301	1,505,442	75	9,572,221
October 25, 1919.	5,688,356	262,580	2,374,372	1,601,474	10	9,926,392
November 1, 1919.	6,010,207	244,087	2,378,512	1,650,204	80	10,341,180
November 8, 1919.	6,181,907	210,837	2,256,794	1,706,417	15	10,442,570
November 15, 1919.	6,181,243	167,322	2,152,950	1,738,041	46	10,389,302
November 22, 1919.	6,216,403	119,599	2,059,874	1,652,704	55	10,301,735
November 29, 1919.	5,965,215	97,287	1,910,684	1,624,682	00	9,772,868
December 6, 1919.	5,750,277	84,530	1,781,013	1,658,003	54	9,474,177
December 13, 1919.	5,678,497	73,948	1,589,579	1,515,756	78	9,063,868
December 20, 1919.	5,500,063	44,938	1,357,156	1,538,956	29	8,761,243
December 27, 1919.	5,356,414	54,492	1,221,953	1,526,221	91	8,576,271
January 3, 1920.	5,051,460	243,306	1,110,606	1,424,702	75	8,215,079
January 10, 1920.	4,841,110	235,330	1,038,743	1,066,180	00	7,382,223
January 17, 1920.	4,493,435	161,435	1,075,835	1,014,126	361,100	7,165,431
January 24, 1920.	4,152,537	149,256	1,032,903	961,942	863,995	6,860,633
January 31, 1920.	3,905,422	141,827	1,011,817	924,057	363,965	6,347,188

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EXHIBIT 13—Concluded

Month.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
February 7, 1920	3,601,022	141,827	960,556	879,195	345,232	5,927,832
February 14, 1920	3,261,272	149,301	783,344	872,625	324,757	5,391,299
February 21, 1920	3,052,357	148,115	683,537	834,372	307,301	5,025,682
February 28, 1920	2,966,124	148,594	649,955	795,442	301,301	4,861,426
March 6, 1920	2,934,640	139,060	657,700	770,056	297,701	4,799,157
March 13, 1920	2,893,910	128,487	654,878	707,965	297,701	4,682,939
March 20, 1920	2,705,351	125,479	625,102	627,379	297,701	4,381,012
March 27, 1920	2,620,790	109,952	623,329	608,097	293,951	4,256,119
April 3, 1920	2,571,376	93,814	622,710	581,297	283,951	4,153,148
April 10, 1920	2,558,176	95,389	650,141	498,439	282,701	4,084,846
April 17, 1920	2,558,206	95,389	617,716	498,439	282,701	4,052,451
April 24, 1920	2,815,808	95,389	588,481	479,595	282,701	3,951,964
May 1, 1920	2,371,374	93,964	478,354	330,926	149,353	3,423,968
May 8, 1920	1,738,737	76,961	382,665	193,327	148,652	2,540,342
May 15, 1920	1,567,039	83,395	361,372	222,591	392,601	2,626,997
May 22, 1920	1,278,213	78,112	640,467	273,529	500,498	2,770,819
May 29, 1920	1,137,791	53,980	745,157	264,889	592,040	2,794,856
June 5, 1920	972,744	48,219	691,419	89,821	357,990	2,160,196
June 12, 1920	689,635	47,203	365,407	116,323	344,119	1,562,687
June 19, 1920	492,297	47,203	275,759	75,791	319,394	1,120,437
June 26, 1920	160,002	46,203	220,012	75,669	293,990	795,876

EXHIBIT 14—BUSHEL INSPECTED "OUT" OF ALL PUBLIC ELEVATORS OF DIFFERENT KINDS OF GRAIN FOR THE YEAR 1919—1920

Month.	Winter Wheat	Spring Wheat	Corn	Kaffir Corn and Milo Maize.	Oats.	Rye.	Barley	Total.
July, 1919	170,753		491,800		707,564	510,379	423,732	2,304,228
August, 1919	2,347,287		304,828		1,153,119	301,286	351,894	4,458,414
September, 1919	5,287,101	1,450	130,436		690,457	142,223	146,734	6,398,401
October, 1919	764,023	41,921	425,726		571,375	183,290	57,213	2,043,557
November, 1919	677,714		158,305		720,915	369,606	52,201	1,978,741
December, 1919	723,479	3,588	55,909		794,318	211,714	161,547	1,949,655
January, 1920	1,238,755		156,469		244,829	587,068	53,525	2,280,646
February, 1920	936,560		8,235		427,279	133,303	62,692	1,568,069
March, 1920	387,054		82,688		241,242	218,903	12,350	942,236
April, 1920	95,009		3,993		264,302	251,582	164,549	779,525
May, 1920	1,371,894	2,091	76,188		316,108	367,463	41,636	2,175,580
June, 1920	993,778	3,077	15,972		602,036	280,111	310,008	2,185,880
Total	14,993,405	62,127	1,909,647		6,734,534	3,536,937	1,838,281	29,064,931

EXHIBIT 15—BUSHEL INSPECTED "OUT" OF ALL PRIVATE ELEVATORS OF THE DIFFERENT KINDS OF GRAIN FOR THE YEAR 1919—1920

EXH /BIT 16—COMPARATIVE STATEMENT OF "IN" INSPECTION FROM THE YEAR 1891 TO JUNE 30, 1920, INCLUSIVE

Year.	Number of cars.	Number of boats.	Winter Wheat— bushels.	Spring Wheat— bushels.	Corn— bushels.	Kaffir Corn and Milo Maize— bushels.	Oats— bushels.	Rye— bushels.	Barley— bushels.	Total bushels.
1891	277,216	---	27,798,776	15,127,138	68,283,523	---	75,404,372	8,185,375	11,042,163	205,836,347
1892	320,572	---	34,223,568	22,639,996	86,159,535	---	85,779,164	3,972,900	13,951,020	246,726,248
1893	271,041	---	17,914,303	23,772,064	85,135,925	---	75,294,700	1,508,853	12,662,400	215,888,245
1894	217,207	---	27,200,900	3,055,360	71,560,220	---	65,952,650	930,550	11,369,775	181,069,455
1895	204,616	---	11,023,123	9,751,617	71,782,273	---	76,393,660	1,166,308	9,578,184	179,695,165
1896	306,445	---	13,642,409	22,480,117	109,961,630	---	106,055,406	2,231,067	10,845,567	264,215,826
1897	310,959	---	11,085,769	11,531,703	122,758,455	---	113,741,311	3,700,526	14,577,602	277,395,365
1898	326,877	---	18,554,026	24,418,464	126,196,096	---	111,499,472	4,526,933	14,493,698	299,752,717
1899	314,186	---	8,713,491	27,808,304	133,480,471	---	117,180,869	537,436	13,551,152	301,271,723
1900	271,806	---	24,382,736	16,874,340	126,033,039	---	109,355,863	1,959,785	13,368,386	291,974,149
1901	213,426	---	21,714,770	12,872,885	99,784,782	---	95,123,311	1,818,793	9,840,492	241,155,033
1902	145,835	---	22,762,729	8,719,206	51,278,192	---	75,389,520	2,776,140	11,894,732	172,930,429
1903	191,970	---	15,363,822	6,474,996	109,573,460	---	81,873,025	3,761,928	13,203,506	230,240,737
1904	162,436	---	14,759,580	4,387,000	92,487,930	---	71,564,426	1,883,256	14,615,940	199,698,135
1905	191,156	---	16,432,633	3,668,468	119,061,042	---	94,247,078	1,604,877	11,679,778	246,693,876
1906	191,406	---	26,073,950	4,516,520	110,851,743	---	102,029,435	1,734,850	12,007,896	257,214,394
1907	191,727	---	23,349,451	5,446,728	130,765,891	---	103,070,520	2,354,100	11,832,858	276,919,548
1908	161,962	69	18,212,521	5,654,217	91,485,356	---	90,989,040	1,980,132	21,332,819	229,653,585
1909	161,712	52	18,653,622	8,174,671	92,914,920	---	88,347,231	1,462,758	23,685,170	233,238,372
1910	173,653	63	23,544,803	7,992,819	106,042,637	---	100,042,026	1,095,964	15,277,030	254,494,195
1911	123,444	4	7,092,926	2,681,112	85,922,991	193,916	60,169,602	519,486	11,474,918	168,375,076
1911-1912	177,143	5	30,772,427	4,895,471	109,654,624	514,041	83,785,560	1,784,728	18,274,834	255,797,359
1912-1913	251,951	9	24,153,194	12,935,338	128,085,776	825,588	142,682,796	2,116,296	25,519,000	336,751,567
1913-1914	163,005	51	41,443,750	9,187,113	95,964,089	1,259,167	84,490,769	1,951,400	20,957,550	259,323,171
1914-1915	234,262	21	84,277,340	7,309,013	106,079,804	328,600	128,809,227	2,622,400	18,272,800	348,783,184
1915-1916	205,342	11	51,650,000	19,922,492	88,025,000	1,412,600	120,157,500	4,054,600	20,995,800	307,754,792
1916-1917	173,083	6	26,228,466	5,771,733	85,918,250	3,949,400	133,040,000	3,285,700	21,725,200	276,429,974
1917-1918	128,333	6	8,629,416	3,059,046	63,652,546	460,625	110,485,518	3,013,000	15,642,000	205,236,415
1918-1919	182,335	---	55,456,010	16,355,798	74,413,297	754,889	103,796,010	7,464,000	23,941,800	282,116,445
1919-1920	130,387	2	55,869,800	9,216,200	65,668,800	689,530	70,201,997	4,076,400	11,633,310	218,844,107

EXHIBIT 17—COMPARATIVE STATEMENT OF "OUT" INSPECTION AND COMBINED "IN" AND "OUT" INSPECTION FROM THE YEAR 1891 TO JUNE 30, 1920, INCLUSIVE

DIVISION OF GRAIN INSPECTION

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Year.	Winter Wheat.	Spring Wheat.	Corn.	Kaffir Corn. and Milo Maize.	Oats.	Rye.	Barley.	Total.	Combined total of "in" and "out" inspection.
1891	23,127,985	8,048,566	41,218,975	-----	14,161,975	5,573,607	2,079,177	94,209,883	300,046,230
1892	21,979,222	16,786,771	46,149,499	-----	18,844,499	2,325,719	1,849,692	107,917,619	354,643,862
1893	17,183,320	10,911,263	62,014,748	-----	16,064,748	276,180	1,320,529	108,170,502	324,058,747
1894	7,346,455	12,075,388	40,284,142	-----	10,143,142	229,826	933,568	71,012,542	252,081,997
1895	15,889,909	3,269,447	49,640,447	-----	16,423,038	207,734	601,421	86,042,420	365,737,585
1896	17,623,079	10,666,573	72,529,549	-----	17,990,581	949,288	831,556	120,586,626	384,401,452
1897	11,233,913	24,882,404	87,744,100	-----	20,767,610	3,110,677	1,174,346	148,913,050	425,308,415
1898	15,861,507	28,626,793	102,292,871	-----	13,933,890	5,103,160	936,624	166,864,835	466,617,552
1899	2,556,306	29,401,967	105,810,587	-----	10,683,499	3,222,747	1,519,530	153,204,635	454,476,358
1900	17,973,565	34,124,720	102,749,483	-----	14,131,566	1,515,527	289,513	170,784,374	462,758,523
1901	24,429,896	27,323,028	75,426,170	-----	19,607,520	1,229,260	321,242	148,337,116	389,492,149
1902	23,196,709	19,782,300	50,565,355	-----	18,214,523	2,946,749	301,534	115,007,170	287,937,599
1903	19,105,468	13,041,875	93,001,543	-----	25,047,154	3,892,765	3,388	154,092,143	384,332,880
1904	12,369,917	7,850,449	75,266,010	-----	24,318,997	1,020,919	485,041	121,311,333	312,004,438
1905	13,314,093	1,599,653	98,340,347	-----	32,663,821	1,476,268	830,487	148,224,669	394,938,547
1906	22,846,402	6,746,156	80,975,194	-----	37,326,543	1,031,437	1,443,067	150,368,799	407,583,193
1907	25,597,500	2,847,622	90,652,323	-----	26,071,189	1,604,834	474,953	147,248,481	424,168,029
1908	30,747,723	3,146,811	65,931,050	-----	38,382,994	1,096,623	389,810	139,695,011	369,348,596
1909	24,589,377	6,306,319	63,069,857	-----	22,117,216	745,223	1,365,168	118,193,160	351,431,532
1910	17,957,364	7,450,662	75,431,128	-----	32,766,238	333,895	84,361	134,023,648	388,517,843
1911	11,155,057	1,505,254	60,591,840	114,774	29,304,610	43,358	22,932	102,737,825	271,112,901
1911-1912	31,565,413	3,152,271	76,260,276	125,000	33,830,887	344,741	151,442	145,430,030	401,227,389
1912-1913	31,250,535	12,795,613	79,131,544	166,459	41,132,332	560,269	915,971	165,952,723	502,704,290
1913-1914	41,658,876	6,713,600	65,291,542	168,263	47,619,256	477,965	275,429	162,390,431	421,713,602
1914-1915	86,556,709	1,595,256	75,188,634	87,773	75,890,530	256,883	3,893,461	243,469,246	592,252,430
1915-1916	36,249,456	19,140,126	52,962,593	734,507	70,197,411	2,060,476	696,298	182,265,256	490,020,048
1916-1917	21,948,297	1,275,572	48,604,641	387,235	82,674,747	1,617,500	581,561	157,089,553	433,519,527
1917-1918	6,230,609	1,201,922	27,501,258	86,902	76,434,923	2,156,386	1,923,363	114,535,363	319,771,778
1918-1919	65,198,237	4,412,359	46,705,545	226,680	85,876,616	7,648,919	10,038,575	220,106,931	502,223,376
1919-1920	54,076,511	8,253,842	27,176,224	383,262	49,753,650	6,679,953	6,098,713	152,422,155	371,266,262

EAST ST. LOUIS DIVISION

"IN" INSPECTION—CARS

	Wheat.	Corn	Oats.	Rye.	Kaffir Corn. Milo Maize.	Total
July, 1919.....	2,439	460	400	13		3,312
August, 1919.....	2,544	182	391	24		3,141
September, 1919.....	1,259	503	423	22		2,207
October, 1919.....	901	647	244	4		1,796
November, 1919.....	629	660	226	6		1,521
December, 1919.....	324	807	264	2		1,397
January, 1920.....	295	912	518	24		1,749
February, 1920.....	310	985	461	4		1,760
March, 1920.....	290	656	391	7		1,344
April, 1920.....	141	450	185	2		778
May, 1920.....	178	358	236	4	19	795
June, 1920.....	329	871	171	5	23	1,399
Total.....	9,639	7,491	3,910	117	42	21,199

"OUT" INSPECTION—CARS

	Wheat.	Corn.	Oats.	Rye.	Kaffir Corn Milo Maize.	Total.
July, 1919.....	481	265	123	2		871
August, 1919.....	178	82	39	2		301
September, 1919.....	546	111	74	4		735
October, 1919.....	439	120	42	1		602
November, 1919.....	356	136	34	5		531
December, 1919.....	192	145	21	23		381
January, 1920.....	123	126	42	34		325
February, 1920.....	109	194	59	1		363
March, 1920.....	73	171	61	9		314
April, 1920.....	40	73	6			119
May, 1920.....	83	89	14	4	7	197
June, 1920.....	50	84	38	2	16	190
Total.....	2,670	1,596	553	87	23	4,929

MISCELLANEOUS INSPECTIONS

	Wagons.	Sacks.	Bins— bushels.
July, 1919.....	30	8,643	
August, 1919.....	58		
September, 1919.....	5		
October, 1919.....	11	1,700	
November, 1919.....	7		
December, 1919.....	3	400	
January, 1920.....		474	
February, 1920.....		9,011	
March, 1920.....	2	4,615	
April, 1920.....	8	500	
May, 1920.....		3,000	7,000
June, 1920.....			
Total.....	124	28,343	7,000

SPECIAL AND REINSPECTION—CARS

	Wheat.	Corn.	Oats.	Rye.	Total.
July, 1919.....	294	68	28	3	393
August, 1919.....	413	13	2		428
September, 1919.....	268	28	14		310
October, 1919.....	129	52	7		188
November, 1919.....	79	51	6		136
December, 1919.....	73	116	4		193
January, 1920.....	49	112	14	10	185
February, 1920.....	51	173	10	2	236
March, 1920.....	59	86	18	1	164
April, 1920.....	20	60	1		81
May, 1920.....	32	72	7		111
June, 1920.....	23	87	3	3	116
Total.....	1,490	918	114	19	2,541

RECAPITULATION

Total cars, "In" Inspections.....	21,199
Total cars, "Out" Inspections.....	4,929
Total cars, "Special and Reinspections".....	2,541
Grand total of cars inspected.....	28,669

DIVISION OF FIRE PREVENTION

JOHN G. GAMBER, *Fire Marshal*

Fire losses in Illinois during the fiscal year ended June 30, 1920, were \$16,552,248. In the preceding fiscal year they were \$13,240,324. The apparent increase last year was \$3,311,922, or approximately 25 per cent, but comparisons are almost futile. Post bellum high prices began to get under way in the 1918-1919 period, but did not begin to hit their real stride until the latter part of the period. In the 1919-1920 period speculative activity reached its height and prices touched their peak. A home which in 1918-1919 was put down as a loss of \$4,000 became a loss of \$6,000 or \$7,000 in 1919-1920. Stocks of merchandise destroyed in the latter year were valued at entirely different levels than those of the preceding year. Average values throughout 1919-1920 were at least 50 per cent higher than in 1918-1919. Unheard of prices were reflected in the losses when fires occurred. Insurance companies made a campaign, urging policy holders to double their insurance, if necessary, to protect themselves at replacement values.

In view of the circumstances, the significant thing is not that losses showed an increase in dollars and cents, but that they were held to a margin of 25 per cent during a time when every loss was figured at an appreciation of at least 50 per cent—a saving in fact of 25 per cent.

It is especially noteworthy that in about half of the counties outside of Cook—counties in which we were able to do the most intensive work—an actual reduction in the loss is shown, despite inflated values.

Illinois has more than held its own in fire prevention work. Forces which have been boosting values throughout the Nation have been the despair of fire preventionists. National losses have been averaging \$900,000 a day, or approximately a per capita of \$3 a year. The Illinois per capita loss for the year covered by this report is approximately \$2.55, or 15 per cent lower than the national figure. In view of the fact that Illinois is a leading industrial and commercial State, with the numerous special hazards and concentrated high values involved in manufacturing and commercial occupancies, this record is very favorable.

Every phase of activity of the division was doubled last year. We covered twice as many towns, issued twice as many orders, made twice as many investigations and gave more attention than ever before to educational propaganda, by public addresses, bulletins and through magazines and newspapers.

How much of a loss was saved the State as a result of this work, of course, cannot be told, but the correction, or elimination of thousands of hazards of every description through departmental orders cannot have been without tremendous effect.

The fire waste of this State and Nation, destroying millions of dollars in resources and bringing death and injury to thousands, is nothing short of a disgrace. We are making headway in Illinois and when values stabilize we look forward to a showing of systematic reduction each year. The problem is one of such magnitude, however, that an increase in the scope of the fire prevention work, as well as some additional legislation, seems imperative if results are to be achieved on a large scale and of a permanent order. Some recommendations along these lines will be made in their proper place in this report.

Another important feature is the education of the public to the menace of fire and the responsibility of every person to prevent fires so far as he personally is concerned. We have been contending with a very different state of public mind in the last year or so from that which existed previously. During the war thrift and conservation became a national trait. Every appeal to save was readily heeded by a patriotic people. But when the strain and restraint of war were lifted there came a wave of popular extravagance, wastefulness and pleasure seeking. The lessons of conservation were forgotten in a time of waste. It was difficult to impress the need for personal responsibility and carefulness upon a people who wanted to be care-free and gay. But indications are that the people have had their fling and are about ready to settle down to the serious business of readjustment, and that reduction of the fire waste will engage their thoughtful attention along with the other big things involved.

INVESTIGATIONS

Incendiary fires have been a small feature of the fire loss, but 214 being reported out of a total of 14,052 fires reported during the year. The incendiary loss was \$1,220,515. Of this amount \$1,000,000 represented the loss in one fire. This occurred in a railroad yard in Chicago and was thought to have been due to labor troubles. This fire was thoroughly investigated, but there was no tangible evidence to substantiate the suspicions. It is just as likely that the cause was spontaneous combustion in one of the freight cars, contents of which made this origin very possible. Aside from this fire, the incendiary loss was \$220,515, or about 1 3/10 per cent of the total loss. The usual incendiary loss runs about 10 per cent.

The principal reason for the relatively small incendiary loss was the condition of business. High prices in every line made profits secure. Financial records show comparatively few failures in business the country over. When business is good, incendiary fires are few, for the

crooked business man does not "sell out to the insurance companies" when there is a larger profit in disposing of goods in the legitimate way.

Nevertheless, the investigation branch of the division doubled its activities. Not only were suspected incendiary losses investigated, but several hundred other fires were looked into, when the cause could not be ascertained and the circumstances indicated that an investigation was desirable.

We cannot afford to let up on investigation work even at a time when the element of crookedness is at a low ebb. Previous activity of the division in having some notorious adjusters and firebugs sentenced to prison, and driving others of the fraternity to cover, has had a wholesome effect in Illinois. Any lessening of our vigilance would only open again the avenues of temptation and encourage the criminally inclined to resume their activities.

Furthermore, a thorough investigation of a mysterious fire has a very strong moral effect on any community, even where no evidence is found to justify an action. The fact that trained investigators for the State are soon on the ground looking into every angle of the loss has a deterrent effect on any who might be inclined to burn their property for gain.

This is a very important feature, especially at this time. In case the break in high prices should be sudden and radical, rather than gradual, a very serious situation is likely to develop. It will mean ruination for many persons who are stocked with goods purchased at high levels and tremendous losses for the greedy speculator who has cornered necessities for disposal at the prevailing high, or higher, prices. Under such circumstances the unscrupulous person is likely to feel the temptation to "cash in" on his insurance policy.

The following table shows the results obtained through investigation of fires reported as of doubtful or suspicious origin:

Number of fires investigated.....	1,642
Number of arrests made.....	51
Number of persons indicted.....	44
Number of persons convicted.....	19
Number of persons acquitted.....	8
Number of indictments nolle prossed.....	5
Number of untried cases.....	12
Number of cases dismissed.....	14
Number of "no true bills" returned by the grand jury.....	6

In a community in the northeastern part of the State a hotel porter was taken on suspicion of having set the hotel on fire. He finally confessed, stating that he was angry at the management for discharging him to make way for a returned soldier, who formerly held the job. It developed that he and his wife had once been convicted of arson. For several weeks prior to his arrest there had been a wave of mysterious incendiary fires in this community. The prisoner never confessed to any part in them. Whether he was the culprit, or whether the fire fiend was frightened because of swift justice meted out in this case, the incendiary fires ceased immediately.

Last Christmas a country store burned in the southeastern portion of the State. The insurance was promptly settled and all seemed well. Several weeks later the deputy residing in that district picked up a clue. Evidence was secured which indicated that the proprietor had caused the burning in order to collect the insurance, but that the fire was set by a young nephew, whom he had persuaded after much effort to do the deed. The nephew disappeared after the fire, but after a state-wide search, was finally located and he told the whole story. Goods removed from the store before the fire were located. The proprietor, his son and nephew were indicted and await trial.

Another interesting case occurred in Cook County. A youth of 21 was taken into custody for setting a fire in a large packing plant. A short time previously another mysterious fire had occurred in this plant and just prior to that time a false alarm had been turned in. This youth made a confession to a deputy, stating that he loved to see fire burn and to watch the fire department. He was committed to a hospital for the insane.

These are fair examples of the three types of cases with which we have to deal—the fires inspired by revenge or hate, those where the motive is burning to defraud the insurance companies and those which are the deeds of the irresponsible pyromaniac.

Next to murder, the crime of arson is probably the most reprehensible which we have to contend, as the arsonist always works under cover and cares little for lives which may be lost as a result of his act.

During the year the division also uncovered operations of another insurance adjuster, who by fraudulent proofs of loss had netted himself several thousand dollars. He fled when the investigation got under way and was supposed to have gone to Mexico.

The bulk of investigations were made in Chicago, where, owing to the large number of mysterious fires, most losses are looked upon with more or less suspicion. During the race riots in August, 1919, the Fire Marshal went to Chicago and took personal charge of the situation. We were able to apprehend a number of ringleaders of mobs which fired property in the negro district, eight of whom were later indicted. Half of these cases have been disposed of, unfortunately, without a single conviction. The remainder are still on the docket.

INSPECTIONS

This branch of the work of the division has been strenuously pushed throughout the year and intensive fire prevention work has been done in the greater part of the State.

Attention has already been called to the fact that, while the fire loss for the year shows an increase in dollars and cents over that of last year, the increase is far below the advance in values of all descriptions. It has also been noted that a careful comparison, county by county,

shows an actual decrease in the losses in about 50 per cent of the counties of the State. The biggest increases in the losses appear in Rock Island County and in Cook County outside of Chicago. In the former county, a disastrous fire occurred in the factory district of Moline, destroying more than a million dollars worth of property. There were a number of disastrous fires in Cook County outside of Chicago, the principal one being a freight car conflagration which occasioned a loss of more than \$ million dollars. Large losses such as that at Moline would seem to indicate that there should be a more careful inspection by insurance companies of their important risks. With greater activity along these lines and closer cooperation with the department, these losses could be largely eliminated.

The results shown in counties where real intensive fire prevention work was done indicates what could be accomplished if the departmental facilities could be enlarged to carry on the same sort of intensive work in all parts of the State. It is impossible, with the limited force of deputies at our disposal, to cover the State thoroughly in any one year or to maintain simultaneous activity throughout the State.

We have followed the district plan of organization outlined a year ago, placing deputies in certain districts and assigning them so far as possible to inspections within those districts. As was expected, the plan has resulted in greater efficiency and economy, traveling expenses being kept at a minimum and each deputy becoming more conversant with conditions in his particular district.

The districts, however, are too large to permit the right kind of follow-up work. The follow-up work is important. We should be in a position to send the deputy back to a town promptly at the expiration of the majority of orders he issued there, so that they might be thoroughly checked up and steps taken where necessary to enforce compliance. At present it is impossible to do this and it is sometimes several months before we can recheck a town. This, of course, has a bad moral effect, causing those who are disinclined to comply to think they may be able to avoid complying for an indefinite period.

Furthermore, we are receiving ever increasing requests from local authorities for inspections of their cities or calls to look over special hazards. We should be in a position to handle these matters promptly at all times.

During the year, the Conservation and Fire Prevention Association of Illinois again cooperated with the division in an effective way and it is pleasing to note that only 16 elevators and 4 mills were destroyed by fire. These are the classes of property which the association inspectors cover particularly.

Examination of the detailed loss report shows that dwelling houses again head the list, both in the number of fires and the aggregate of loss. The dwelling house loss is entirely out of proportion. These fires are almost entirely preventable and with proper facilities and a sufficient

number of deputies, the loss could in a short time be reduced to the minimum.

Another classification which shows a large loss is barns, stables, etc. These barns and stables are gradually being converted into garages, with the result that hazards, which were originally great, are materially increased by the change of occupancy.

Practically twelve million dollars of the fire loss can be charged to five classes of property: barns and stables, dwellings, factories, stores and warehouses, and we do not feel that any radical decrease can be shown in these classifications until more adequate means are provided to properly cover and inspect them.

A summarized report of the division's activities is shown in the following table:

Year.	Month.	Towns. visited.	Inspections.	Buildings removed.	Prosecutions and fines.
1919.....	July.....	76	6,934	15	5
	August.....	107	4,654	10	2
	September.....	66	3,843	37	8
	October.....	74	3,195	7	-----
	November.....	54	3,583	21	36
	December.....	47	2,513	1	1
1920.....	January.....	74	4,088	15	25
	February.....	71	5,333	40	42
	March.....	105	4,290	29	20
	April.....	105	3,832	53	15
	May.....	126	4,420	69	4
	June.....	147	6,930	33	-----
	Total.....	1,052	53,615	330	158

It will be noted that 330 old dilapidated buildings—fire hazards which menace whole communities—were removed. Most of the removals were secured without any court action. The 158 prosecutions and fines were largely on account of rubbish and housekeeping hazards and for violation of the gasoline law.

The tragic part of fire waste is the number of deaths and injuries. Reports kept by the division show that 219 persons lost their lives and 388 were injured as a result of fire or burns. The record by months follows:

DEATHS

Year.	Month.	Babes nad children.	Youths and middle aged	Aged people.
1919.....	July.....	20	6	2
	August.....	11	10	5
	September.....	10	10	2
	October.....	4	6	4
	November.....	9	7	1
	December.....	5	1	2
1920.....	January.....	12	6	1
	February.....	11	1	3
	March.....	13	9	3
	April.....	5	5	-----
	May.....	9	4	3
	June.....	10	6	3
	Total.....	119	71	29

INJURED

Year.	Month.	Babes and children.	Youths and middle aged.	Aged people.
1919.....	July.....	7	24	1
	August.....	11	23	
	September.....	3	19	1
	October.....	4	17	1
	November.....	9	25	1
	December.....	3	8	
1920.....	January.....	17	42	1
	February.....	16	24	
	March.....	3	22	
	April.....	5	13	
	May.....	5	24	3
	June.....	13	38	6
	Total.....	96	279	13

Doubtless the toll was larger. We have no way under the law of requiring the reporting of casualties and must rely upon unofficial sources of information.

Most of the deaths and injuries are not due to burning buildings, but are the result of carelessness with matches, children and matches, starting fires with oils, careless use of gasoline and kerosene, use of cleaning and other preparations containing volatile compounds (adequate warning not always being placed on the label by the manufacturer), bon-fires and the like. The number of lives sacrificed and persons maimed as a result of these practices and conditions is appalling. We must depend largely upon public education to eliminate many of these practices, but it would seem that the situation is serious enough to warrant the legislature in enacting laws which would prohibit so far as can be done by legislative enactment the practices which are responsible for this red blot upon the State. The great majority of those burned to death are babies and little children, who do not realize danger, and the State should especially look to their welfare.

The Fifty-first General Assembly enacted a law giving the department power to make rules and regulations controlling the sale, use, storage and transportation of gasoline and volatile oils. These rules have been prepared and are ready to be published. The hazard of petroleum and its products has become one of the most serious with which we have to contend. Last year an increase of 234 fires and of \$253,353 in loss was caused by this hazard alone, while the sacrifice of a number of lives was also involved. We believe that the rules adopted will materially reduce this loss of life and property, because they throw every possible safeguard about the handling of volatile oils.

The legislature also designated the department as the enforcing agency of the laws with reference to fire escapes and doors on public buildings opening outward. The deputies throughout the State have made careful surveys of these matters and as a result a great improve-

ment has been shown as to safety conditions in schools, hotels, theaters and public buildings.

Unfortunately for the department, section 9 of the Fire Marshal Act was held unconstitutional by the supreme court in a suit instituted at Paris, Edgar County. The case involved the condemnation of an old building. The majority of the court held with the lower court that section 9 was unconstitutional because it conferred arbitrary powers upon the fire marshal. It held that property could be condemned only through proceedings in a court of record and not by any official. Justice Cartwright rendered a strong dissenting opinion, holding that the property owner is protected in all his rights, since no order of the fire marshal can be enforced except by suit brought in a court of record by the fire marshal. Two other justices also dissented, the vote being four to three. The department has applied for a rehearing of the case.

Section 9 of the Fire Marshal Act and in fact the entire Fire Marshal Law should be rewritten and recodified. This was done and presented to the last legislature, but in the closing hours of the session antagonistic interests succeeded in amending it in such a way as to make practically the entire act void. There was not time to redraft the bill and it was deemed advisable not to press the matter further at that time.

When this law is rewritten, it should contain a section giving the Department of Trade and Commerce power to make reasonable rules and regulations as to all public buildings so that they can be made safe from panic and fire. A number of other matters should be embodied in the law, but, as it is not known at this time what provisions the Housing and Building Code will contain, definite recommendations cannot be made. There should be some provision, however, for controlling theaters, garages and other serious hazards to life and property growing out of these special classes of occupancy. It is true that these hazards change from time to time and therefore the legislation should be of such a nature as to give the department reasonable control of occupancy and hazard.

Cooperation secured from fire chiefs and local officials during the past year has been very satisfactory and to them should be given a full measure of credit for the success obtained by the department. It is unfair that under the present law fees for making fire reports can be paid only to fire chiefs and mayors who receive no compensation for their services to the municipality, for almost all of them receive some compensation. All of these officials should be compensated for the work the State requires of them and the law should be changed so as to provide a definite basis of compensation for all.

RECOMMENDATIONS

Mention has been made of the need for enlarging the facilities of the division by increasing the staff of deputies. Fire prevention is a tremendous problem and can be effectively coped with only by meeting it on the scale demanded.

At this time and for some months past we have been facing the problem of retaining our present deputies on the salaries allowed by the State. Some of our best men have been offered more lucrative employment and have been held to the department only by loyalty and a liking for the work. Loyalty, however, will not hold them indefinitely and two of our best men will be lost to the service this fall. Our men are trained inspectors and investigators. In most cases their experience has been gained at the expense of the State. Despite the tremendous rise in living costs, their salaries have not been increased. Unskilled labor of every kind is being paid more in most cases than our deputies and if we are to retain anything like an efficient personnel, there must be a substantial upward revision of salaries by the next legislature.

We cannot expect to add competent new men, to say nothing of keeping our old men, unless the positions are made attractive enough to interest such men. As a matter of fact, our experience during the past year in filling vacancies has shown that it is almost impossible to interest capable men in these positions. The civil service examinations have not attracted aspirants and it has been difficult to secure temporary employees to try out the positions.

The same situation applies to the office administrative staff. The Assistant Fire Marshal must be qualified in every way to take the place of the Fire Marshal in his absence, to represent him on any occasion, to give public addresses, to prepare educational propaganda and to supervise the work of the office. The supervisor of fire prevention must be an expert in construction matters and in the technical aspects of the inspection work, besides having the ability to direct the inspection work throughout the State. The supervisor of investigations must be trained in criminal investigations and preparation of cases for prosecution, besides being able to direct effectively the investigations of the deputies in the field. Men of these qualifications can readily obtain far more lucrative employment with private enterprises and increases should be provided if the State is to retain high class men in these positions.

For real success in fire prevention work, the routine inspections should be supplemented by an effective campaign of education. Much of the carelessness and ignorance which causes fire waste can be corrected only by education. Human habits are so ingrained that they can be offset only by the most persistent propaganda.

The division ought to be in a position to publish a monthly bulletin, to be distributed not only to newspapers and other publications, but to school principals, fire chiefs, mayors and town clerks. We need enactment and enforcement of more effective ordinances in the great majority of communities in the State and greater fire prevention activity by local officials. A monthly bulletin would serve to sustain their cooperation and inspire the enthusiasm which is necessary to bring about the desired results. Other states are securing great results through such a bulletin.

The motion picture has been developed as one of the most effective means of education. The department should make use of it. In addition, literature of an educational nature should be systematically distributed.

We believe that an appropriation sufficient to undertake work along these lines in an effective way should be provided. We believe also that the legislature should make fire drills compulsory in the schools and require the teaching of fire prevention in the public schools at least fifteen minutes a week.

We have previously covered recommendations with respect to the Fire Marshal Law and legislation designed to reduce deaths and injuries due to dangerous practices and conditions. The following statutes are also strongly recommended:

Empowering rural communities to organize rural fire departments, purchase equipment and levy a tax therefor. Under such a statute rural communities could join together and maintain inexpensive, yet adequate equipment, at a central point. Development of motor apparatus and good roads has simplified the problem of rural fire protection and a statute such as suggested would do much to reduce the present unreasonable rural loss.

Uniform standard hose couplings and connections. Because of lack of uniformity, fire departments called from adjoining cities to help fight a disastrous blaze often find, after making the run, that they can be of no assistance. In some cases this has meant the loss of a whole town. A law regulating matters of this sort, with provision for enforcement, would be very desirable.

Personal liability law. A strict statute should be enacted holding every person personally liable who has caused a fire by culpable carelessness or failure to comply with an order to remedy fire hazard conditions. Under such a statute, such person could be required to pay the city the cost of extinguishing the fire and, if property of another person were destroyed, he would be liable for the damage. If every person were made liable under the statute in this way, we believe the fire loss would soon show a material decrease.

THE STATISTICAL RECORD

PROPERTY LOSS

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY, SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1919 TO JUNE 30, 1920

Total value of buildings in which fires have occurred.....	\$145,009,404
Total damage to said buildings.....	9,463,488
Total insurance on said buildings.....	80,910,666
Total value of personal property jeopardized by fire.....	60,069,387
Total damage to said personal property.....	7,088,760
Total insurance on said personal property.....	33,883,741
Total fire loss in the entire State of Illinois.....	16,552,248
Total number of fires in the entire State of Illinois.....	14,052

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1919 TO JUNE 30, 1920.

Total value of buildings in which fires have occurred.....	\$34,342,975
Total damage to said buildings.....	7,257,063
Total insurance on said buildings.....	17,044,654
Total value of personal property jeopardized by fire.....	11,773,702
Total damage to said personal property.....	4,450,990
Total insurance on said personal property.....	6,123,394
Total fire loss outside the city of Chicago.....	11,717,053
Total number of fires outside the city of Chicago.....	7,403

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1919, TO JUNE 30, 1920.

Total value of buildings in which fires have occurred.....	\$110,656,426
Total damage to said buildings.....	2,206,423
Total insurance on said buildings.....	63,866,612
Total value of personal property jeopardized by fire.....	48,290,685
Total damage to said personal property.....	2,628,770
Total insurance on said personal property.....	27,760,347
Total fire loss in the city of Chicago.....	4,835,195
Total number of fires in the city of Chicago.....	6,649

NUMBER OF FIRES AND THE LOSS THEREFROM, FROM JULY 1, 1919 TO JUNE 30, 1920.

IN THE STATE OF ILLINOIS

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
July.....	1,260	\$ 845,098	February.....	1,668	\$1,458,893
August.....	881	2,019,946	March.....	1,228	1,263,790
September.....	865	745,303	April.....	947	1,012,044
October.....	661	659,782	May.....	913	1,488,651
November.....	1,125	968,962	June.....	919	2,204,244
December.....	1,611	1,292,171			
January.....	1,974	2,503,454	Total.....	14,052	\$16,552,245

OUTSIDE THE CITY OF CHICAGO

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
July.....	457	\$ 519,133	February.....	1,033	\$1,048,778
August.....	427	1,785,786	March.....	724	876,249
September.....	409	563,953	April.....	496	645,834
October.....	286	492,412	May.....	433	912,936
November.....	599	631,727	June.....	447	1,874,394
December.....	933	993,151			
January.....	1,159	1,372,709	Total.....	7,403	\$11,717,053

IN THE CITY OF CHICAGO

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
July.....	803	\$ 325,965	February.....	635	\$410,025
August.....	454	234,160	March.....	504	387,550
September.....	456	181,350	April.....	451	366,210
October.....	375	167,370	May.....	480	575,715
November.....	526	337,235	June.....	472	419,850
December.....	678	299,020			
January.....	815	1,130,745	Total.....	6,649	\$4,835,195

CLASSIFICATION OF CAUSES, NUMBER OF FIRES AND THE LOSS THEREFROM ACCORDING TO CAUSES, FROM JULY 1, 1919 TO JUNE 30, 1920

Cause.	No.	Damage.
1. Chimneys, flues, cupolas and stacks, overheated or defective.....	1,113	\$ 926,153
2. Conflagrations.....	17	21,475
3. Electricity (except electric irons and similar small devices).....	513	1,850,336
4. Explosions.....	77	432,067
5. Exposure.....	656	459,755
6. Fireworks, fire crackers, balloons, etc.....	50	2,895
7. Friction, sparks occasioned by running machinery.....	39	38,710
8. Gas—natural and artificial.....	314	146,290
9. Hot ashes and coals, open fires.....	427	118,804
10. Hot grease, oil, tar, wax, asphalt, (ignition of).....	160	88,623
11. Hot irons, including electric devices.....	88	25,743
12. Incendiarism.....	214	1,220,515
13. Lightning—buildings rodde.....	1	10
14. Lightning—buildings not rodde.....	261	808,044

CLASSIFICATION OF CAUSES—Concluded

Cause.	No.	Damage.
15. Matches, smoking.....	1,514	\$ 543,931
16. Miscellaneous—cause known, but not classified (for unknown see No. 27)....	61	30,101
18. Open lights.....	188	212,292
19. Petroleum and its products.....	623	572,289
20. Rubbish and litter.....	488	93,847
22. Sparks—arising from combustion (other than, 23).....	255	271,716
23. Sparks—on roofs.....	3,250	1,140,726
24. Spontaneous combustion.....	345	608,565
25. Steam and hot water pipes.....	85	32,188
26. Stoves, furnaces, boilers and their pipes.....	1,041	849,348
27. Unknown.....	1,510	3,715,346
28. Unknown origin, but investigation important.....	762	2,342,490
	14,052	\$16,552,248

CLASSIFICATION OF PROPERTY BURNED, NUMBER OF FIRES AND THE FIRE LOSS
ACCORDING TO PROPERTY DESTROYED FROM JULY 1, 1919 TO JUNE 30, 1920

Class of property.	No.	Damage.
1. Apartment houses, flats and rooming houses.....	1,467	\$ 426,163
2. Amphitheatres, grand stands, etc.....	4	20,300
3. Bakeries.....	48	36,845
4. Barber shops.....	74	16,760
5. Barns and stables (not liveryes).....	734	1,021,439
6. Churches.....	98	180,079
7. Depots, stations, waiting rooms, etc.....	46	45,950
8. Dry cleaning establishments.....	25	11,198
9. Dry houses, kilns, rooms, etc.....	5	2,270
10. Dwellings.....	6,648	3,926,815
11. Elevators and grain warehouses.....	16	186,478
12. Factories.....	551	3,709,115
13. Foundries.....	47	33,542
14. Garages.....	386	660,812
15. Granaries.....	14	31,843
16. Green houses.....	3	2,210
17. Halls, (lodge), (club), (dance), (public), etc.....	84	480,150
18. Hotels and boarding houses.....	114	123,873
19. Hospitals.....	14	46,035
20. Ice houses.....	18	62,290
21. Jails.....	1	10
22. Laundries.....	32	54,660
23. Liveryes.....	5	30,155
24. Mills (flour).....	4	137,000
25. Mills (saw and planing).....	6	14,715
26. Office buildings.....	82	176,097
27. Oil houses.....	15	106,427
28. Photo studios.....	10	2,730
29. Power houses, pump houses and engine houses.....	43	54,242
30. Restaurants.....	118	44,342
31. Saloons.....	53	21,900
32. Sheds.....	837	353,209
33. Smoke houses.....	55	8,847
34. Silos.....	4	1,650
35. Stores.....	1,034	1,473,380
36. Shops, (carpenter, blacksmith, etc.).....	219	191,741
37. Schools, (colleges, seminaries, etc).....	78	155,025
38. Theatres and motion picture houses.....	24	63,978
39. Warehouses.....	149	831,814
40. Miscellaneous.....	124	296,410

FIRES OTHER THAN BUILDINGS

1. Automobilies.....	454	70,489
2. Boats.....	13	18,100
3. Bridges.....	7	1,720
4. Cars, (railway), (electric), etc.....	144	1,071,573
5. Docks, (coal), etc.....		
6. Fences.....	28	352
7. Grain and hay.....	58	16,285
8. Junk yards.....	13	22,025
9. Lumber yards.....	19	11,660
10. Tanks, (water), etc.....	17	295,365
11. Tents.....	4	945
12. Threshing outfits.....		
13. Trestles.....	1	5
14. Wagons.....	5	1,230
	14,052	\$16,552,248

**NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN EACH COUNTY IN
THE STATE OF ILLINOIS FROM JULY 1, 1919 TO JUNE 30, 1920**

	Number.	Damage.		Number.	Damage.
Adams.....	140	\$ 210,718	Livingston.....	74	55,92
Alexander.....	96	50,681	Logan.....	41	78,29
Bond.....	24	15,940	Macon.....	107	191,05
Boone.....	14	3,810	Macoupin.....	95	117,52
Brown.....	7	12,310	Madison.....	184	199,99
Bureau.....	68	166,514	Marion.....	55	54,79
Calhoun.....	-----	-----	Marshall.....	18	26,73
Carroll.....	24	18,223	Mason.....	30	41,34
Cass.....	41	26,311	Massac.....	18	16,89
Champaign.....	203	276,751	McDonough.....	35	42,75
Christian.....	83	94,264	McHenry.....	45	52,39
Clark.....	45	127,561	McLean.....	194	230,52
Clay.....	5	4,955	Menard.....	23	50,21
Clinton.....	21	6,995	Mercer.....	26	27,19
Coles.....	111	57,749	Monroe.....	8	15,23
Cook.....	7,265	6,793,849	Montgomery.....	76	40,29
Crawford.....	20	26,726	Morgan.....	71	38,55
Cumberland.....	24	16,333	Moultrie.....	16	17,72
DeKalb.....	58	41,280	Ogle.....	54	61,79
DeWitt.....	32	39,003	Peoria.....	233	328,75
Douglas.....	27	19,254	Perry.....	64	28,56
DuPage.....	69	256,103	Piatt.....	26	53,21
Edgar.....	73	60,811	Pike.....	25	61,12
Edwards.....	5	13,330	Pope.....	15	20,14
Effingham.....	22	21,410	Pulaski.....	2	2,10
Fayette.....	29	30,986	Putnam.....	18	36,15
Ford.....	22	47,355	Randolph.....	27	35,29
Franklin.....	47	78,175	Richland.....	30	75,31
Fulton.....	140	86,663	Rock Island.....	169	1,125,95
Gallatin.....	24	16,923	Saline.....	27	24,43
Greene.....	33	95,680	Sangamon.....	417	256,61
Grundy.....	31	24,930	Schuyler.....	21	22,95
Hamilton.....	21	13,843	Scott.....	7	14,96
Hancock.....	66	147,550	Shelby.....	41	35,47
Hardin.....	4	9,250	Stark.....	23	27,05
Henderson.....	21	93,020	St. Clair.....	373	383,92
Henry.....	178	83,402	Stephenson.....	84	55,07
Iroquois.....	75	140,436	Tazewell.....	84	169,94
Jackson.....	87	94,421	Union.....	15	14,42
Jasper.....	24	25,440	Vermilion.....	275	351,19
Jefferson.....	64	29,832	Wabash.....	27	40,43
Jersey.....	9	39,846	Warren.....	50	54,06
JoDavies.....	45	30,965	Washington.....	15	8,52
Johnson.....	1	1,050	Wayne.....	20	16,11
Kane.....	145	296,250	White.....	22	42,94
Kankakee.....	104	124,963	Whiteside.....	152	134,08
Kendall.....	19	103,032	Will.....	216	390,66
Knox.....	119	122,222	Williamson.....	106	108,96
Lake.....	126	144,061	Winnebago.....	115	144,33
LaSalle.....	179	305,464	Woodford.....	24	31,12
Lawrence.....	30	317,142			
Lee.....	40	142,199			
				14,062	\$16,552,28

DIVISION OF PUBLIC UTILITIES

JAMES H. WILKERSON, *Chairman*

FRANK H. FUNK,

WALTER A. SHAW,

THOMAS E. DEMPCY,

P. J. LUCEY,

Commissioners

R. ALLAN STEPHENS, *Secretary*

On July 1, 1919, the following were the members of the commission: Thomas E. Dempcy, East St. Louis, chairman; Frank H. Funk, Bloomington; Walter A. Shaw, Chicago; Patrick J. Lucey, Chicago, and James H. Wilkerson, Chicago, commissioners; R. Allan Stephens, Danville, secretary.

On November 24, 1919, Chairman Dempcy was relieved of the duties of Chairman, on account of ill health, and Commissioner James H. Wilkerson was designated Chairman by Governor Frank O. Lowden. There have been no other changes in the personnel of the officers of the commission during the past year.

GENERAL REVIEW OF THE WORK OF THE COMMISSION

The work of the commission during the year ending June 30, 1920, cannot be understood without reference to the exceptional industrial and economic conditions under which it has been performed. From the organization of the commission on January 1, 1914, until the entry of this Nation into the World War in 1917, there were no violent fluctuations in prices and no great disturbances in labor conditions. The commission was able to go forward under normal conditions with its work of prescribing reasonable rates, establishing uniformity in practices, and exercising its control over the financing of utilities. The entry of this Nation into the war was followed by rapid increases in prices and wages. It was apparent within a very short time that a large number of the utilities of the State could not continue to operate unless there were increases in rates for service in proportion to the increased operating costs. The Federal War Labor Board, in authorizing advances in wages to take care of the increased cost of living, urged upon the State authorities the duty of granting rates which would enable utilities to pay the increased operating expenses and avoid bankruptcies and receiverships. The financial shock to the country resulting from the failure of the companies engaged in the operation of utilities would have been a serious

menace to the successful prosecution of the war. This commission dealt with the emergency by the entry of temporary orders granting increases sufficient to take care of the absolute necessities of the utilities. These orders at first were framed upon the assumption that with the close of the war there would be a return to normal conditions and that the pre-war rates could be reinstated. Shortly after the cessation of hostilities in 1918, however, it became apparent that the severe effect of the shock of the war upon the finances and industry of this country had been generally underestimated. It was then understood that the work of industrial-readjustment and reconstruction was to be long and arduous and that the dominating economic forces were to be similar to those which had operated during the periods following the Napoleonic wars and the American Civil War. The prices of materials and supplies and the wages of labor continued to advance. Operating expenses of utilities reached the point where, in most cases, the pre-war rates were insufficient to take care of actual operating expenses, without making any provision whatever for accruing depreciation or return upon investment. The facts as to these advances are a part of the economic history of our time and are so well known that it is unnecessary to make a detailed statement. It is sufficient to say that, compared with 1916, wages and prices have more than doubled in 1920.

The result of this extraordinary economic situation has been that during the past year almost every utility in the State has been obliged to apply to the commission for relief. It has been necessary that the commission should deal promptly with these applications, because most of the rates which have been challenged by the petitioning utilities have been rates which were manifestly confiscatory. Failure to grant relief entitled the utility to resort to the Federal courts for protection of its constitutional rights. If the commission had attempted to require adherence to these confiscatory rates, it would have abdicated the authority of the State over public utilities and would have surrendered control of such utilities to the Federal courts. The prompt relief granted in the Federal courts against the inflexible 2-cent passenger fare, on grounds of confiscation, was a demonstration of what would have followed in the case of other utilities, if the commission had undertaken to deny rates sufficient to pay operating expenses and provide a just return upon investment.

It is impossible to give even an outline of the important matters arising out of this extraordinary situation with which the commission has had to deal. The work of the last year will be better understood if, before presenting a review of the work of the different sections, there is reference to some proceedings which are illustrative of the commission's work during that period.

Chicago Strike Investigation.

One of the first matters with which the commission had to deal during the present year was the street car strike in Chicago in July, 1919.

On July 19, 1919, the commission received a communication from Governor Lowden, in which he directed attention to the controversy relative to wages and the public injury which would result from the threatened strike, and requested the commission to make an investigation of the facts and report the same.

The work of the commission in this connection is set forth in the following extract from its report to the Governor under date of August 9, 1919:

Pursuant to your instructions, the commission ascertained that the employees of the companies had demanded an increase of approximately 77 per cent in wages, which would put those employees receiving the maximum wage scale on a basis of 85 cents an hour for the Surface Lines, and 87 cents an hour for the Elevated Lines. The employees also demanded the establishment of the 8-hour day with time and a half for over time, 80 per cent of the runs to be continuous, and the remaining 20 per cent to be performed within 10 hours. They also demanded a reduction in the hours for work on Sundays and holidays, with time and a half for work performed on those days. The commission also ascertained that the companies had advised the employees to the effect that it was impossible to comply with these demands and that the employees had voted to strike in case their demands were not met.

The commission interviewed representatives of both the employers and the employees and pointed out the importance to the public of an adjustment of the controversy to the end that the extensive business interests of Chicago should not be crippled by tying up transportation facilities. Conferences were held with the respective parties separately and finally there was a joint conference at which a serious disagreement arose and from which the representatives of the employees withdrew. The matter was then called to your attention, and as a result of your appeal for a resumption of negotiations, the representatives of the employees consented to take up the negotiations with the employers again. These negotiations finally resulted in an agreement between the committee of the employers and the committee of the employees as to wages and working conditions, which was to be submitted to the employees for ratification and which was to become effective when ratified.

This agreement provided, in substance, that the work day of employees should be 8 hours, and time and a half for all time worked over 8 hours; not less than 60 per cent of the runs should be straight time, and the balance should be completed within 14 consecutive hours, and that no run, regular or extra, should be less than 8 hours' time. The agreement also provided that the maximum pay for trainmen should be increased from 48 cents an hour to 65 cents an hour for employees on the Surface Lines, and from 50 cents an hour to 67 cents an hour for employees on the Elevated Lines, and that other employees of the companies should receive a like increase of 17 cents an hour. There were other provisions in the agreement, specifying the manner in which the time tables should be prepared and go into effect. It was provided that the agreement should run until June 1, 1920, and if either party decided to modify the agreement on June 1, 1920, notice in writing to that effect should be given on or before May 1, 1920, and that if no written notice of modification is given on or before May 1, 1920, the agreement should continue thereafter until 30 days' notice of modification should be given by either party.

This agreement was submitted to a meeting of the employees and was rejected, and a strike was called for four o'clock in the morning of July 28, 1919.

The national representatives of the unions of the employees then came to Chicago and conferences were held with you. As a result of those conferences the representatives of the unions submitted the ratification of the agreements to a referendum vote of the employees. This vote was duly taken. The agreements were ratified, the strike was called off, the men returned to work, and, after a disturbance of four days, the business of the city of Chicago returned to its normal condition.

It is needless to say that at none of the conferences above mentioned were any agreements or representations made by the commission or any member thereof, either directly or indirectly, as to the action which would be taken by the commission upon application for rate adjustments which it might be called upon to hear and to decide. The discussion had to do solely with the fairness of the demands made by the employees in the light of the present cost of living and in relation to adjustments of similar controversies which had been made between employers and employees in other cities. The commission was not, directly or indirectly, a party to the settlement which was finally arrived at, and its work was limited to an ascertainment of the real points in controversy and of the facts relied upon by the respective parties in support of their respective contentions.

The settlement of this controversy has relieved the people of Chicago from a most serious situation. In view of the present disturbed industrial conditions, the strike, if it had been prolonged, would have inflicted irreparable injury upon Chicago and would have been a serious menace to the business of the city.

Commenting upon the work of the commission in making this investigation, the Supreme Court, in *Chicago Railways Co. v. City of Chicago*, 292 Ill. 190, 204, said:

Counsel for the city assail the commission with charges that the increased rate was determined upon at secret meetings with the officers of the petitioners and that the case was prejudged. There is no basis whatever for such a charge. Governor Lowden called upon the commission, as provided by section 8 of the Public Utilities Act, to investigate and report as to the situation in Chicago, which was threatening to tie up the city and interfere with business, and the commission, in discharge of its duty, did make an investigation, at which the contending parties, consisting of representatives of the employees and officers of the petitioners, were present. The commission would be justly chargeable with neglect of duty if it had not done what it did.

Chicago Elevated Railroads Case.

Following a wage award by the National War Labor Board, the Chicago Elevated Railroads, on September 2, 1918, filed with the commission an application for an increase in fares from 5 cents to 7 cents. After a number of hearings, the commission entered an order on November 19, 1918, temporarily permitting a 6-cent fare. Following a strike and four days' suspension of the service from July 31, 1919, to August 3, 1919, wages were again increased, and, on August 6, 1919, the commission, on application by the carriers and after a hearing and showing in support of the application, entered an order authorizing a fare of 8 cents until February 1, 1920.

Beginning in November, 1919, a hearing has been in continual progress concerning the valuation of the properties of the elevated com-

panies, and this hearing will be concluded in September, 1920. On January 28, 1920, the commission ordered a slight reduction in fares to 8 cents cash or two tickets for 15 cents. Hearing upon the valuation continued, and, on June 24, 1920, the companies filed an application for authority to place in effect a cash fare of 10 cents. Hearings upon this petition were held, and, at the close of the fiscal year on June 30, 1920, the petition was pending for further hearing on July 6, 1920.

During the past fiscal year, voluminous evidence concerning the value of the properties and the results of their operation has been presented by the companies and combated by the special counsel for the City of Chicago, and many of the contentions of the companies have been warmly contested. Engineers, accountants, and land appraisers employed by the City of Chicago have placed in evidence a large amount of data relating to the value of the properties, particularly of the lands and non-operating property, and various questions relating to the operating results of the four companies. From the mass of data now before it, the commission will be enabled to finally fix a fair rate-making value of the properties.

There has also been a complete and searching investigation of the books of the companies, by the accountants for the commission. That investigation has taken the time of from four to six men for six months. During that time there have been carefully examined in detail the records for thirty years, involving some nineteen corporations, and involving the expenditure of many millions of dollars charged to construction and operation.

Peoples Gas Light and Coke Company Case.

On July 1, 1919, there was under way before the commission a special investigation of the gas service rendered by this company. The investigation was comprehensive in its character and occupied the time of a special force of accountants and stenographers. The investigation disclosed conditions affecting seriously not only the health and comfort of the public but also the existence of the company itself. It was evident that there was a lack of confidence of the consumers in the integrity of the company. There was disclosed, as the investigation proceeded, lack of cooperation between departments, loss of control by officials, employment of inefficient help, shortage in the number of persons regularly employed, and indifference of employees toward consumers. While this investigation was in progress, the company filed its application, in case No. 7689, for an increase in rates effective August 1, 1919. In connection with this application, the commission made a more complete investigation as to the quality of service. Objection was made by the company to the consideration of questions of service in connection with the fixing of rates. The commission ruled, however, that the rendition of adequate and efficient service was a condition to the granting of rate increases.

Complaints as to the service of this company were so numerous and of such a nature that it became necessary for the commission to assume temporarily the supervision of the departments which had to do with meter reading, billing, collecting, inspecting, and complaints. Under the direction of the commission's gas engineer, a special organization, consisting at times of more than fifty trained assistants, was built up. Approximately 70,000 letters were sent out in connection with this case, by the staff of the commission. An audit was made, covering twelve months' meter reading and billing in connection with over 700,000 consumers of gas. Refunds amounting to more than \$100,000 were made to the consumers as a result of the investigation.

The Department of Public Service of the City of Chicago was notified as to this investigation and invited to cooperate in the adjustment of complaints which had been filed with the city. This notice was disregarded. In many cases it was found very difficult to adjust complaints, because consumers who had turned over receipted bills to the Department of Public Service of the city were unable to obtain them from the city for filing with the commission.

As a result of this work the business practices and operation of the Peoples Gas Light and Coke Company were reorganized. This work of reorganization was facilitated by the support given by the employees of the company when it became apparent that the constructive work of the commission was resulting in benefit to the company. The president of the company, Samuel Insull, gave directions that the employees of the commission were to have a free hand and that their suggestions were to be complied with. A new style of meter reading book was devised and put into effect. This contributed very largely to the improvement of the operations of the company. New systems for checking meter readings and the computation of consumption were put into effect. All inspectors of the company who were required to visit the premises of consumers were put in uniform. The shutting off of gas service pending the adjustment of a disputed bill was discontinued. It was arranged that bills should be sent out containing the full information required by consumers to enable them to check the computations. The practice of throwing bills indiscriminately into hallways and down elevator shafts was stopped. The records on the ledger of payments on account were satisfactorily taken care of. The company was stopped from charging and collecting gross amounts on disputed bills. There were many other improvements in the service rendered to the consumer. As a result of the expert advice and assistance of the commission, the breakdown in the service of the company was repaired.

The order of July 25, 1919, denied the application for increase, and directed that the primary rate of 88 cents established by the commission on July 30, 1918, should be reduced to 85 cents; that the secondary rate of 82 cents should be reduced to 80 cents; that the tertiary rate of

65 cents should remain the same. Those rates were declared to be temporary and to continue until March 31, 1920. That order also directed a complete valuation of the property of the company for rate making purposes.

The property of this company is so extensive that it was impossible for the regular engineering staff of the commission to make an inventory and appraisal within any reasonable time, and the appropriations for the work of the commission were not sufficient to permit the employment of special engineers for that purpose. The City of Chicago, however, entered its appearance in the case and undertook to submit the results of the work of the Special Gas Litigation Committee of the City Council in making inventories of the gas company's property. The problem of valuing a property of this magnitude was so large and intricate that it was found necessary to adopt some method of systematizing this part of the commission's work. At the suggestion of Donald R. Richberg, special attorney of the Gas Litigation Committee of the Chicago City Council, a committee was formed, of which A. S. B. Little, gas engineer of the commission, was chairman, for the purpose of checking over the inventory which had been previously prepared by the company at a cost of over \$1,000,000, and reconciling it, if possible, with another inventory which had been prepared at large expense by the engineers employed by the city. This committee consisted of both engineers and attorneys for the city and the company. A sub-committee of engineers was appointed, which reported from time to time to the general committee. This sub-committee was under the direction of the commission's gas engineer, A. S. B. Little, or, in his absence, the commission's assistant gas engineer, J. M. Lane. As a result of this work, a stipulation was finally entered into between the company and the city, whereby differences in their respective inventories were reconciled and an amended inventory was agreed upon in less than two months from the time the work of the conference committee was commenced. When the work on the inventory was completed, counsel for the city and the company requested the commission to grant permission to continue the work in order that figures might be agreed upon, if possible, representing the construction cost of the physical property under various pricing theories and for different periods. The commission was willing to give this method a trial, because, if successful, it would save many months that would otherwise be consumed in the introduction of evidence. The work of pricing the 57-volume inventory of property, arriving at the present condition of the property thus inventoried and priced, and calculating the overhead expenses incurred during construction was concluded in six months, presented to the commission in printed form, signed by the attorneys and engineers, and offered in evidence in the form of a stipulation.

This method of preparing and submitting the engineering evidence in this case resulted in a saving of at least \$100,000 to the State and the evidence is now in such shape that it can be considered without analyzing and rearranging it, as is usually necessary with cases tried in the ordinary way.

The temporary rates which were authorized on July 25, 1919, were to continue until March 31, 1920 only. On March 23, 1920, the commission, after a hearing, continued these rates in effect until December 1, 1920, but, upon further hearing, on June 16, 1920, the commission found that, due to the increased cost of materials, supplies, and labor, and in view of the preliminary valuation agreed upon by the representatives of the company and the City of Chicago, the existing rates should be increased to \$1.15 for the primary rate and \$1.00 for the secondary rate. The valuation case is nearing completion and will soon be ready for decision by the commission.

Chicago Surface Lines Case.

During 1918, the Chicago Surface Lines made application for an increase of fares, which, after an extended hearing and investigation by the commission, was denied on April 25, 1919. The application was renewed in August, 1919, and evidence was submitted to the effect that wages and the cost of supplies and materials had increased to such an extent that the companies could not earn enough under the 5-cent fare prescribed by the city ordinance to pay actual operating expenses. The commission entered an order on August 6, 1919, authorizing a 7-cent fare. The rate so fixed was temporary in character and not to be effective after February 1, 1920, but the commission reserved the right to extend the effective period beyond that date, or to order the discontinuance of such rates at any time prior thereto, and retained jurisdiction to investigate further the rates of fare authorized by the order and to make such further findings and orders as might be justified by the facts determined at subsequent hearings. The application of the companies for a hearing and investigation for the establishment of permanent rates was also granted, and the case was set for hearing on September 8, 1919. From that order the City of Chicago appealed to the Sangamon County Circuit Court, and that court, being of the opinion that the commission had no authority to make any change in rates except upon a full and complete hearing and investigation from which a fair return upon the investment could be based, set aside the order and remanded the proceeding to the commission. From the judgment of the Circuit Court of Sangamon County, the companies appealed to the Supreme Court. The order of the commission was not stayed in either the Circuit or the Supreme Court.

On February 18, 1920, the Supreme Court reversed the order of the Circuit Court of Sangamon County, and affirmed the order of the commission. (*Chicago Railways Co. v. City of Chicago*, 292 Ill. 190.) Further reference is hereinafter made to this decision.

Subsequent to the entry of the order of August 6, 1919, an investigation by the accountants of the commission disclosed that the temporary fare authorized by that order produced a larger return than was permissible under the rules governing temporary orders, upon the showing of value and operating expenses which had then been made to the commission. The commission, after a hearing, entered an order on November 25, 1919, continuing the 7-cent cash fare, but providing for the sale of 10 tickets for 65 cents and books of 50 tickets for \$3.00. On December 23, 1919, the commission entered a further order reducing the fares to 6 cents, it having been found, after hearing, that the fares previously authorized were equivalent to a 6.85-cent fare, while a 6.25-cent fare was the average necessary to produce the requirements of the companies fixed for the period while the valuation was being heard. The commission further found that the earnings on the basis of a 6-cent fare, during the period which would probably elapse until the final order in the case, would equalize the situation. The order for the 6-cent fare was made effective until May 1, 1920. This order was extended on April 26, 1920, to June 30, 1920. Large additional increases in wages of employees were made by the companies, effective June 1, 1920, and, upon a showing of such increased wages, as well as increases in other operating expenses, a temporary increase to an 8-cent fare was allowed on June 19, 1920, effective until the further order of the commission. The hearings in the valuation case were completed in June, 1920. Many thousands of pages of testimony were taken, briefs were submitted by the parties, and the case is now under advisement by the commission.

Chicago Telephone Company Case.

The beginning of the fiscal year found most of the telephone companies in Illinois under the control of the Postmaster General. By an act of Congress, approved by the President of the United States, on July 11, 1919, all telephone companies were relieved from Government control and restored to their original owners at midnight of July 31, 1919, leaving in effect all rates established by authority of the Postmaster General for a further period of four months unless sooner reviewed.

On July 16, 1919, the Chicago Telephone Company filed a petition with the commission requesting that a temporary order be entered authorizing the company to put into force on August 1, 1919, for local and long distance telephone service in Illinois, schedules of rates which were substantially the same as those charged for such service by the company during the period of Federal control. Hearings were had upon this petition, at all of which hearings there were present representatives of the City of Chicago and many other municipalities concerned. The company introduced no evidence showing what revenues it had earned under the government rates, nor any estimate as to the probable results of the operation under the proposed schedules, and the commission found

that there was not sufficient evidence in the record to justify the approval by the commission of the schedules filed by the applicant, but permitted a modified schedule to be filed and to become effective temporarily until November 30, 1919.

Hearings were continued upon the valuation of the telephone company's property and on November 15, 1919, a further petition was filed asking for certain modifications of the schedules filed. The applicant introduced testimony to show that during the month of October, 1919, its operating expenses had increased at the rate of \$1,750,000 per year by wage increases made in that month to all classes of employees. The commission, however, found that by releasing funds previously impounded by it for reparation purposes to subscribers, the rates then in effect would be sufficient, and continued the rates in effect with but slight amendments as to moving charges.

The hearings on the valuation of this company's property continued during the winter, and on May 20, 1920, the company filed a petition asking for authority to put in a new schedule of rates which would increase its revenue. Hearings were had upon this petition in which statements of operating expenses and revenue were placed in evidence, and by order entered June 19, 1920, the commission found that the existing schedule of rates was inadequate; that the proposed schedule of rates was not justified, and permitted a modified schedule which would allow approximately 7 per cent return upon \$37,204,600, which the commission found to be a sum less than any reasonable valuation that might be placed upon the property involved.

The end of the fiscal year found the hearings on the valuation of the property of this company still continuing before the commission, with the case rapidly nearing the end.

Springfield Consolidated Railway Company.

The Springfield Consolidated Railway Company, on May 16, 1918, filed a petition for increase of rates and, on July 30, 1918, the commission, under the principles later approved in the Chicago Surface Lines Case, 292 Ill., 190, entered a provisional order authorizing a straight 5-cent fare, and discontinuing the sale of tickets, except for children.

Upon a showing by the company of increased operating expenses and cost of materials and supplies, resulting from conditions growing out of the World War, the commission by provisional order, on September 19, 1918, authorized a cash fare of 6 cents and 9 tickets for 50 cents.

Subsequent to the entry of the provisional order of September 19, 1918, the company filed an application for a 7-cent cash fare and 8 tickets for 50 cents. This application was denied by the commission and the case set down for final hearing in order that there might be a finding as to the fair value of the property of the company for rate-making purposes.

Evidence as to the value of the property was introduced on behalf of the company and the City of Springfield. The company, upon the evidence presented in its behalf, claimed a valuation for rate-making purposes of \$2,900,000. The city introduced evidence tending to show that the value of the property, undepreciated, was \$1,757,793. On June 15, 1920, the commission entered an order finding the fair value of the property of the company devoted to public use to be \$1,965,000, and that the rates allowed by the commission; namely, 7 cents cash fare and 4 tickets for 25 cents, would yield a return to the petitioner of less than 7 per cent upon its investment. No appeal has been taken from the findings and order of the commission.

East St. Louis Railway Company.

The East St. Louis Railway Company, on June 19, 1918, filed an application for authority to put into effect a cash fare of 7 cents in the city of East St. Louis, and to sell 5 tickets for 30 cents. Upon showing made that the rates then in force were not sufficient to produce revenue to provide for operating expenses, depreciation and a fair return upon the value of the property of the company, the commission, on August 8, 1918, authorized an adult cash fare of 6 cents, and 3 cents for children between the ages of five and twelve years.

On September 30, 1919, the company filed application asking for a straight 8-cent fare. Evidence has been presented tending to show the value of the property of the company for rate-making purposes, the earnings and operating expenses, and other data, from which the reasonableness of the proposed rates may be determined. This case is still pending.

Western United Gas & Electric Company.

On May 24, 1920, the commission entered an order authorizing the Western United Gas & Electric Company to place in effect rates for gas service approximately 30 cents per 1,000 cubic feet higher than those previously charged. This company supplies gas to 64 municipalities and communities by means of distribution systems inter-connected by high pressure gas transmission lines. The principal cities affected are Aurora, Elgin, Joliet, Lockport, Wheaton, LaGrange, and many small communities along the Fox River. The above mentioned order also provided that the company file with the commission a detailed inventory of its property and valuations based thereon, and part of this work has already been completed. No previous increase in rates had been granted this company, notwithstanding the abnormal conditions growing out of the World War.

Rockford Gas Light & Coke Company.

On June 15, 1920, the commission entered an order authorizing the Rockford Gas Light & Coke Company to place in effect rates for gas

service substantially 15 cents per 1,000 cubic feet higher than those theretofore charged. The order also provided that on or before October 1, 1920, the company should file with the commission a detailed inventory of its property and certain valuations based thereon.

Illinois Traction System.

On June 14, 1920, the commission entered an order authorizing the Illinois Traction System to increase its rates for electric service not to exceed .3 cents per kilowatt hour. This order fixed rates for electric service furnished numerous consumers and municipalities along the line of the Illinois Traction System and is the first increase granted to that utility for that class of service.

Central Illinois Public Service Company.

On May 13, 1920, the commission entered an order authorizing the Central Illinois Public Service Company to put in effect increased rates for electric service furnished by it in more than 150 communities in central Illinois. The company was also ordered to file with the commission, on or before November 1, 1920, a detailed inventory of its property and certain appraisals based thereon. It is estimated that the value of the electric property of this company is at least \$10,000,000.

Springfield Gas & Electric Company.

By its order entered October 7, 1919, the commission authorized the Springfield Gas & Electric Company to increase its rates for steam and hot water heating service in Springfield. This case required considerable time to pass upon the issues involved, as a number of important questions relating to this class of service were determined, such as the establishing of a rule for the determination of required radiation, etc. Throughout the hearings in this case the issues were warmly contested by the City of Springfield.

Illinois Northern Utilities Company.

By an order entered May 11, 1920, the Illinois Northern Utilities Company was authorized to increase its rates approximately 30 cents per 1,000 cubic feet from the previous rates of \$1.30 and \$1.40 in DeKalb, Sycamore, and seven other communities in that vicinity. This order discussed in great detail many questions of valuation and operation.

Central Union Telephone Company.

On or about April 1, 1920, the Central Union Telephone Company filed schedules proposing increases in its rates for telephone service. This company operates over 60 telephone exchanges located in all of the principal cities of the State outside of Chicago. The proposed increased rates were suspended, and hearings were being held at the close of the period covered by this report.

Fuel Conservation Orders.

In the latter part of November, 1919, the coal strike developed and resulted in the coal shortage which seriously threatened the operation of the utility companies of the State.

On November 28, 1919, the commission passed a resolution reciting the need of conservation of the supply of fuel and calling upon all public utility corporations in the State to restrict unnecessary and non-essential use of gas and electric current. The commission further requested that all unnecessary illumination for advertising purposes, including signs and window lighting, should be immediately discontinued, and that all power dependent upon coal as its productive force should be limited as far as possible to service involving the public health, safety and living necessities of the people. The commission also called upon chambers of commerce, boards of trade, and municipal authorities throughout the State to meet and consult as to ways and means of conserving fuel within their respective localities. There was an immediate response to this appeal on behalf of the public utility companies and the various municipalities.

On November 29 the commission, on its own motion, issued a citation against various utility companies to appear and show cause why orders should not be entered in accordance with the provisions of the resolution, and on December 2 the first of a series of what were known as "coal shortage orders" was entered, directing utility companies not to furnish electric energy or gas for display advertisements, announcements, or signs, or for the purpose of external illumination or ornamentation of any building, or for the purpose of ornamental lighting within any building. In subsequent orders issued at intervals until December 12, 1919, the commission further restricted the use of coal by utility companies by reducing suburban and local transportation schedules; lowering the temperature in cars and stations; restricting the hours of work shops, industrial establishments, wholesale businesses, mercantile establishments and storage warehouses; reducing utility service to practically every class of business in the State, and discontinuing the taking on of new business except in cases of extreme necessity.

The commissioners remained in almost continuous conference during this time, adjusting the orders to meet changing conditions. The municipal authorities and business associations cooperated most heartily with the commission in this crisis, with the result that the citizens of the State were enabled to obtain sufficient utility service to meet their necessities. While the only authority the commission had to handle the coal situation was the authority to order the discontinuance of utility service to any consumer who would not comply with its orders (the railroads being at that time under Federal control), a remarkable spirit of cooperation was shown on behalf of every one, and in almost every instance the requests of the commission were strictly complied with.

On December 12, 1919, the strike having been settled, the commission rescinded all restrictive orders.

General Order 64.

By General Order 64, adopted by the commission on April 19, 1920, an invitation was extended to cities of 20,000 population, or more, to assist the commission in checking the character of the service of utilities operating therein, by the appointment of a local representative to be paid by the city, to act as supervisor of service, under supervision of the commission.

Illinois Classification Case.

The United States Railroad Administration, by order of the Director General of Railroads during the period of Federal control, effective February 15, 1920, cancelled Illinois Commissioners' Classification No. 10, and changed the commission's scale of rates, substituting therefor the following:

(1) For rate-making purposes, the State of Illinois was divided into two districts, hereafter referred to as the Northern and the Southern Districts. The Northern District constituted that part of Illinois lying north of the Atchison, Topeka & Santa Fe Railway Company from Chicago through Joliet and Streator to Pekin; thence via the Illinois River to its confluence with the Mississippi River at or near Grafton, Illinois. The Southern District consisted of that part of Illinois on and south of the aforesaid line.

(2) Between points in the Northern District and from points in the Northern District to points in the Southern District, the then existing class rates were continued in effect, and the Consolidated Classification, with Western Ratings, was substituted for the Illinois Classification.

(3) Between points in the Southern District and from points in the Southern District to points in the Northern District, the Central Territory scale of rates and the Consolidated Classification, with Official Ratings, were substituted for the then existing class rates and Illinois Classification.

Many complaints were filed by shippers, alleging that the aforesaid rates were unjust, unreasonable and discriminatory. On March 30, 1920, the commission cited all common carriers operating in the State of Illinois to appear and show cause why they should be permitted to continue to apply the Western and Official Classifications, rules, regulations, practices, and class rates, intrastate in Illinois, or show cause for the substitution of other classification, rules, regulations, and class rates therefor. Hearings on the citation were held by the commission. Evidence was introduced by the shippers showing the discrimination complained of. The respondents made no effort to justify the rates, but

admitted that they were discriminatory. Many conferences were held in which a representative of the commission participated. The result has been the working out of a new classification and scale which relieved shippers from the discrimination created by the order of the Federal Railroad Administration. This classification and scale is to be effective with the putting into force of the new intrastate rates which will be required to meet the interstate rates to be granted by the Interstate Commerce Commission upon the application of the carriers for rates sufficient to produce revenues authorized by the Transportation Act of 1920.

Passenger and Freight Rate Cases.

During the period of Federal control, passenger and freight rates on intrastate traffic were charged on a basis prescribed by the Director General of Railroads. Soon after the railroads were taken over by the Federal Government, the Attorney General of this State ruled that the effect of the Federal statutes and of the orders of the Director General made pursuant thereto was to supersede State authority over intrastate rates. This view was upheld by the Supreme Court of the United States in *Northern P. R. Co. v. North Dakota*, 250 U. S. 135. The Federal Transportation Act of 1920, effective March 1, 1920, provided that all rates, fares, and charges, and all classifications, regulations, and practices, in any wise changing, affecting, or determining any part or the aggregate of rates, fares, or charges, or the value of the service rendered, which on February 29, 1920, were in effect on the lines of carriers subject to the Interstate Commerce Act, should continue in force and effect until thereafter changed by State or Federal authority, respectively, or pursuant to authority of law; but that prior to September 1, 1920, no such rate, fare, or charge, should be reduced, and no classification, regulation, or practice should be changed, in such manner as to reduce any such rate, fare, or charge, unless such reduction or change is approved by the Interstate Commerce Commission.

Shortly after the passage of the Transportation Act of 1920, the carriers filed application seeking State approval of the freight and passenger rates which were in force under Federal control. Suspension orders have been entered in these cases. As to passenger fares, the power of this commission is limited by section 41 of the Public Utilities Act, which provides that nothing in the act shall be construed to repeal the Two-Cent Passenger Fare Law of 1907. This matter was brought to the attention of the last General Assembly, but it did not amend the Two-Cent Fare Law or confer any authority upon this commission to deal with the situation. It is expected, therefore, that subsequent to September 1, 1920, questions of confiscation and discrimination will be presented, which will require adjudication in the courts. The carriers contend that not only is the Two-Cent Fare Law confiscatory under post-war conditions, but that the effect of section 208a of the Federal

Transportation Act of 1920 is to leave in force the passenger fares effective on February 29, 1920, unless and until they are affirmatively modified by appropriate State or Federal authority. The application of the carriers to the Interstate Commerce Commission for passenger fares in excess of three cents per mile presents again, under new conditions, the questions which were decided in favor of the State of Illinois in the *Illinois Passenger Fare Cases*. (*I. C. R. Co. v. Pub. Util. Com.*, 245 U. S. 493.)

The carriers have applied also to the Interstate Commerce Commission for freight rates higher than those effective February 29, 1920. In their application, the roads of the United States are so grouped that the railroads in Illinois fall within three separate groups. The percentage of increase sought in these different groups is not uniform. This complex situation presents some of the most difficult transportation problems with which the Public Utilities Commission has had to deal, and a very important part of the work of the commission during the ensuing year will be to secure for shippers of this State rates which are just and reasonable under our State law and which at the same time are not so discriminatory with respect to interstate commerce that they will be set aside by the Interstate Commerce Commission and in the Federal courts under the provisions of the Transportation Act of 1920, forbidding discrimination against interstate commerce.

VOLUME OF WORK OF COMMISSION

It is impossible within the limitations of this report to show the volume of the work of the Public Utilities Commission by specific reference to cases. Attention has been called to some of the more important proceedings growing out of post-war economic conditions in order that the necessity for making adequate provision for handling this important work may be made clear. The economic disturbance resulting from the war is bound to continue for several years. When high prices and high wages have been reduced to a normal basis, a readjustment of rates upon lower levels will be imperative. The commission, if it is to perform its duty to the public, must be equipped with the instrumentalities with which to do this work.

During the past year 1,522 new formal cases have been filed with the commission, 903 formal cases have been finally disposed of, and 3,703 orders have been entered.

In addition to the volume of work in connection with rate regulation which has followed the war, the commission must take care of the regular business which comes both in normal and abnormal times. This includes passing upon and supervising the issue of stocks and bonds, and inspecting and regulating the manner in which plants and equipment are operated, not only with respect to adequacy, security and accommodation afforded by the service, but also with respect to compliance with the law. A service inspection department is maintained. The com-

mission investigates accidents and takes action to prevent their recurrence. It conducts special investigations of extra-hazardous grade highway crossings, and makes inspection of safety appliances on railroad cars and engines. It has also directed the installation of more than 7,000 approach signs at highway crossings. Many of the orders passed deal with railroads crossing railroads, street car service, railroad tracks crossing streets and highways, interlocking devices and signals on railroads, track elevations in cities, joint track agreements of railroads, track extensions, highway crossing protection, and sufficient clearances for railroad employees to prevent accidents. A large number of investigations and orders have been made regarding complaints as to unsafe track conditions, street car service, careless operation of cars and trains, insufficient clearances, street and highway crossing protection, inadequate toilet and station facilities, operation of automatic and interlocking signals, headlights on engines, fencing and drainage, condition of highway grade crossings and transferring of freight and passengers.

The commission has established uniform systems of accounts for all utilities, so that the information obtained may be rendered of great value in securing reliable information for the determination of the actual investment in utility property and the cost of service. Each utility is required to file reports with the commission at stated periods, and the information contained in the reports is analyzed and classified by the commission.

During the period of Federal control, the commission rendered the fullest cooperation and assistance to shippers in the presentation of evidence to the Interstate Commerce Commission and the Railroad Administration, with a view to securing just and equitable freight and passenger rates. As a result, many changes were made and unjust and inequitable rates, rules and regulations eliminated.

Picking up at random the docket for July 1, 1919, it appears that hearings were had in ten cases, which included an application to discontinue the operation of a warehouse, a complaint by a city of the conditions of certain railroad tracks, the application of an electric utility for increase in rates, a complaint of refusal to furnish switching connections, three applications for increase in telephone rates, and two applications for authority to issue securities. In addition to these hearings, on the same day the commission held a conference in which fourteen orders were discussed and passed. This day's work was typical of the daily work of the commission, excepting that the work increased in volume as the year progressed.

The commission continues the semi-monthly publication of advance sheets of its Opinions and Orders, which are subsequently issued in bound volumes, each including the twelve months from October 1 to September 30. A subscription price of \$3.00 a year is charged for the advance sheets, but the bound volume is distributed without charge. The com-

mission also issues annually a volume of statistical data compiled from reports filed by public utilities.

The following excerpts and data from the reports made to the commission by the several sections of its organization will give a general idea of the nature and scope of the work of those sections:

ENGINEERING SECTION

During the past year this section has assisted in the preparation of 1,456 orders; it has made 291 investigations and reports and 61 valuations; it has handled informally among other things, 561 complaints, 6,678 rate schedules and 374 facility licenses, and has answered 12,008 inquiries. The work of this section has been interfered with by resignations of employees due to the fact that the commission could not pay them as much as commercial and industrial concerns. In the work of valuation, figures compiled by the engineering department from detailed reports on file in its office, show that the total cost of property appraised by all divisions from the time of their organization to June 30, 1920, was \$185,730,889 and for the year ending June 30, 1920, \$95,196,947. These figures, with few exceptions, are based on original costs of the property.

A comparison of the cost of operation and increased rates for telephone service shows that wages have increased between June 30, 1916, and June 30, 1920, as follows:

Commercial	42 per cent	
Traffic	104 per cent	(Operators)
Plant	77 per cent	

Poles, wires and instruments in the same period have increased 100 per cent. It may be noted that the item "operators' salary" comprises 35 per cent of the entire cost of furnishing telephone service. Increase in expenses exclusive of taxes has averaged about 38 per cent. Increase in rates authorized June 30, 1920, over June 30, 1916, in an average of 22 towns, is about 29 per cent.

The principal items used in the construction and operation of electric utilities have increased from 1916 to 1920 on an average of about 90 per cent. In some instances individual items such as fuel oil have advanced more than 200 per cent. During that period the increase in operating expenses in large cities has been about 25 per cent per kilowatt hour, while in small towns the increase has been about 60 per cent. There has been no increase in the lighting rate in large cities but there has been an increase of 20 per cent in the power rate in those cities and 50 per cent in the lighting and power rates in small towns.

Labor per hour in operating gas plants has gone up 111 per cent in the period from 1916 to 1920, while for the same period the increase for coal gas per ton has been 135 per cent, coke 62 per cent, freight on coal 203 per cent and gas pipe 130 per cent. While the increase in

operating expenses per thousand cubic feet of gas has been 142 per cent, the increase in rates authorized has been but 30 per cent.

Operating expenses in water service have increased about 75 per cent while rates have increased about 18 per cent.

The heating service shows an increase in operating expenses of about 105 per cent, and in rates of about 17½ per cent.

The increase in the cost of operation of street car service has been over 100 per cent and in some instances over 125 per cent. The increase in street car fares authorized has been very much less. In but two towns an increase of 100 per cent has been allowed, in one town 60 per cent, in sixteen towns 40 per cent, in eleven towns 20 per cent, and in four towns increases were denied.

The foregoing increases in rates for utility service are rather low when compared to the increased costs of living. The following shows the sources of information and the per cent increase in living costs:

Bradstreet, 96 commodities, 96.7 per cent June 30, 1920, over June 30, 1916.

U. S. Bureau of Labor Statistics, 89 per cent April 15, 1920, over June 30, 1916.

Analyst Index, 91 per cent first half, 1920, over June, 1916.

ACCOUNTING SECTION

The work of the Accounting Section covers a field which in similar organizations is frequently divided as follows: (1) Bureau of Finance and Capitalization; (2) Bureau of Accounts, and (3) Bureau of Statistics.

More specifically the work may be divided:

(1) Investigations relative to the authorization of security issues, preparation of draft of findings and order, and the accounting for proceeds of security issues.

(2a) Audits and investigations relative to rate determinations. This includes the audit of accounts involving expenditures for property, retirements of property, income accounts, and studies of the volume and character of traffic or service rendered.

(2b) Supervision of the accounts of utilities. This includes the preparation of uniform systems and forms of accounts, instructing and assisting utility officers and employees in the application of accounting rules, inspecting accounts and similar duties.

(3) Preparation of statistical matter for publication and furnishing information of various kinds from reports on file with the commission.

Following is a brief review of the activities of the Accounting Section during the past year, together with certain references to matters of interest bearing on subjects which have engaged attention.

During the year ended June 30, 1920, the commission entered 202 orders authorizing the issuance of securities, the total amounts (par value) authorized to be issued being as follows:

	Authorized.	Fees charged.
Capital stock.....	\$ 10,094,993.33	.....
Bonds, notes and other securities.....	262,707,600.89	\$198,936.34
Total	\$272,802,594.22	\$198,936.34

During the year ended June 30, 1919, the commission entered 165 orders authorizing the issuance of securities, as follows:

	Authorized.	Fees charged.
Capital stock.....	\$ 94,170,038.00	.....
Bonds, notes and other securities.....	129,916,137.46	\$116,923.14
Total	\$224,086,175.46	\$116,923.14

From January 1, 1914, to June 30, 1920, the commission has entered 1,049 orders authorizing the issuance of securities aggregating \$2,061,238,836.21, or an average of \$1,964,956 per authorization, making an annual average of 161 orders and \$317,113,667 of authorized securities.

In a majority of the cases the Accounting Section made a careful examination of evidence submitted, checked statements of expenditures, examined mortgages, and conducted such further investigations of the matters involved as were required to clear up any doubtful points or to develop further facts relative to the proposed issue of securities.

The Transportation Act of 1920 confers upon the Interstate Commerce Commission jurisdiction in the matter of securities issued by carriers subject to that act, which includes practically all of the steam railroads operating in Illinois. While the act provides that the jurisdiction conferred shall be exclusive, it further provides that notice of any application for authority to issue securities, together with a copy of such application, shall be sent to the Governor of each state in which the applicant carrier operates, and that the state authorities shall have the right to make to the Interstate Commerce Commission such representations as they may deem just and proper in such proceeding. The Governor of Illinois has adopted the practice of referring such notices to this commission, and investigations are made by this section in connection with each of such applications. Consequently, it is not anticipated that the work of this section pertaining to security issues will be curtailed to any great extent.

The examiners of accounts of the Accounting Section have been constantly engaged during the year in the audit of the books and records of public utilities in connection with proceedings involving the determination of rates. The general scope of the work undertaken in most of those investigations was designed to accomplish the following purposes:

- (1) Secure a record of the amount of capital which has been invested in the property devoted to public service, the cost of various

classes of property, the items of property retired and the cost thereof, and also the amount of funds used and necessary for working capital.

(2) Ascertain the actual operating expenses and taxes and the amount of gross income and net income resulting from the operation of the property under existing rates.

(3) Obtain a survey of the traffic or service rendered, analyzed in such manner as will furnish an adequate basis for the construction of rate schedules that will be fair and equitable to all patrons and that will yield the required net income. Statistical tables prepared in connection with such surveys are so constructed as to afford a basis for an accurate estimate of the amount of income that may be expected to result from the application of any rates which may be under consideration.

For many years accountants and others interested in public utility work have appreciated the desirability of a standard system of accounts applicable to all public utilities throughout all of the states of the Union. At the present time the accounting committee of the National Association of Railway and Utilities Commissioners has in preparation a uniform system of accounts for gas and for electric utilities. It is expected that these systems of accounts will be ready for presentation to the national association at the meeting of the association to be held in the fall of 1920. The Accounting Section of this commission is represented on the accounting committee of the national association, (the Chief Accountant being a member of this committee) and has devoted considerable time to this work.

During the period covered by this report, the compilation of statistical data for the year ended December 31, 1917, was completed, and at the date of this report a similar compilation for the year ended December 31, 1918, was nearing completion. The general character of the information included in these compilations is indicated in preceding annual reports. The statistical report for the year ended December 31, 1916, was received from the printer during the year.

A volume of comparative financial statistics of certain classes of utilities was also compiled during the year covered by this report. This compilation included data pertaining to electric railways, electric, gas, heating and water utilities and all companies having annual revenues in excess of \$10,000. The more important financial items of each company were shown for the years 1914 to 1918, inclusive, so that the results of operation of one year might be readily compared with those of another. As far as practicable, after the close of each quarter of the past year this section has prepared abstracts of all monthly and quarterly reports of operations filed with the commission pursuant to the provisions of orders relating to rates. The number of such reports is constantly increasing. This class of reports enables the commission to keep informed

of the results of operation under temporary rates and promptly to take measures to remedy any conditions which require consideration.

TRANSPORTATION RATE SECTION

This section conducts investigations in regard to the transportation of persons or property by steam or electric railways, express companies, motor bus companies and street railways.

The substantial increase in the cost of materials, supplies and labor growing out of the World War caused many petitions to be filed with the commission for increases in rates for public utility services, and this materially increased the work of this section.

With the granting of increases in rates for service rendered by public utilities of this State, it was apparent that in order to inure to the benefit of the public any reduction in operating expenses must be brought directly to the attention of the commission. To accomplish this, the public utilities were directed by the orders entered to file with the commission at short intervals reports showing the results of operation under the existing cost of materials, supplies and labor, and the existing rates. It was deemed advisable to keep informed of the cost and the amount of maintenance work during each period, and therefore, many reports were filed which, upon analysis, enabled the commission to determine from time to time the return that the public utility is receiving on the rate-making value of the property fixed by the commission.

Under the plan adopted, the public utility is not permitted to earn in excess of the just and reasonable return fixed by the order of the commission, and when the operating expenses are decreased the benefit therefrom inures to the public by a reduction in the rates.

The Illinois classification matter and the passenger and freight rate cases, which have been discussed in previous pages of this report, have been handled by the Illinois Commission largely through this section. These important matters have consumed a large portion of the time of the employees of this section.

Throughout the period of Federal control of railroads, the shippers of this State indicated to the commission their appreciation of the co-operation and assistance rendered them during the extremely trying period when many rates were established without giving the shipping interests the usual opportunity to be fully heard. It will be observed by the provisions of the Transportation Act that, prior to September 1, 1920, the Public Utilities Commission is prevented from making any reduction in any rate, fare, or charge, and thus a general readjustment cannot be undertaken until the power of the Public Utilities Commission is completely restored on September 1, 1920.

Shippers refrained from filing complaints during the period of Federal control in order to avoid interference with the plans of the

Director General in the operation of the railroads, and to allow the Federal Government to utilize the transportation systems of this country for the purposes for which they were taken over. Therefore, a tremendous increase in the number of complaints that will be filed with the commission involving transportation matters can soon be expected.

COURT DECISIONS RELATING TO THE COMMISSION'S POWERS AND DUTIES

During the past year the Supreme Court has rendered several decisions construing the Public Utilities Commission Act, passing upon the power of the commission to enter emergency orders in rate proceedings, and establishing the principles to be applied in determining the value of the property of a public utility for rate-making purposes. Among the most important may be mentioned the following cases:

City of Quincy v. Public Utilities Commission, ex rel, 290 Ill. 360.

Chicago Railways Company, et al. v. City of Chicago, 292 Ill. 190.

City of Chicago v. Dempsey, 40 Sup. Ct. Rep. 53, (U. S. Supreme Court).

Mo. Pac. R. R. Co. v. Public Utilities Commission, 292 Ill. 427.

Public Utilities Commission v. Bartonville Bus Line, 290 Ill. 574.

City of Chicago v. Mayer, 290 Ill. 143.

Springfield Gas & Electric Co. v. Springfield, 292 Ill. 231.

State Public Utilities Commission v. Springfield Gas & Electric Co., 291 Ill. 209.

In the Quincy case the court passed upon the power of the State of Illinois, acting through its Public Utilities Commission, in the exercise of the police power, to regulate the rates of a public utility notwithstanding the existence of a franchise ordinance which purported to fix rates for a term of years.

During the year 1912 the Quincy Railway Company accepted a so-called franchise ordinance which purported to establish the rates for street railway service on its lines for a term of twenty years. Subsequently the commission authorized an increase in the rates so fixed. The City of Quincy appealed from the order of the commission and challenged the power of the commission to authorize fares in excess of the fares fixed by the franchise ordinance.

The Supreme Court held that the municipal authorities in this State have never been clothed with power to fix by binding contract public utility rates for any definite term of years; that the regulation of public utilities is within the police power of the State; that this power may be exercised directly by the legislature or indirectly by conferring the power upon some agency created by the legislature. The court referred to its decision in the case of *City of Chicago v. O'Connell*, 278 Ill. 591, and quoted from that decision as follows:

This power (of regulation) is an attribute of sovereignty and is primarily vested in the legislature which has the power to recall it at any time from the agency to which it has been delegated.

In affirming the order of the commission, the Supreme Court, *inter alia*, said:

We think it has clearly been settled by the decisions of this court that the Public Utilities Commission of this State, under the Public Utilities Act, has had conferred upon it the power of changing the rates to be charged by public utilities corporations. (Citing numerous cases.) Under these and other decisions of this court already cited there can be no escape from the conclusion that the Public Utilities Commission has the right and authority, under the police power of the State, to make the change in these rates as provided in its order as found in this record. The great weight of authority in other jurisdictions is in accord with this conclusion.

The Chicago Surface Lines case (292 Ill. 190), involved an appeal by the City of Chicago from a temporary order of the commission entered on August 6, 1919, authorizing the Chicago Surface Lines to put into effect certain increased fares. The city contended that the franchise ordinance under which the street railway companies were operating, and which established a 5-cent fare, was valid and binding and that the commission had no power to authorize the increased rates.

The Supreme Court adhered to its decisions in the Quincy case and in the O'Connell case, *supra*, and held that the City of Chicago could make no agreement binding upon the State as to what the street railway fares in that city should be.

In this case the City of Chicago also contended that the commission had no authority to fix a temporary rate based upon increased operating expenses and could only authorize a change in rates upon a full hearing and examination which would demonstrate what a permanent rate should be. The Supreme Court, in its opinion, referred to the fact that the commission in April, 1919, after having heard evidence for several months, denied the application of the street railway lines for an increase in rates; that in August, 1919, it was necessary for the railway companies to increase the wages of their employees; that thereupon they again petitioned the commission for relief on the ground that the revenue from a 5-cent fare was insufficient. The court further referred to the fact that the commission at the time of making its order of August 6, 1919, was already familiar with the record upon which the April order was entered; had heard additional evidence in support of the later application, and had found a temporary increase necessary pending a final valuation of the properties of the companies. Reference was also made by the court to the fact that representatives of the city had always had access to the books and records of the companies, and that their books and records were audited every year by an accountant selected by the city; that the board of supervising engineers, on which the city had a representative, kept a check on all work and expenditures, and full, detailed annual report of all accounts was made to the city comptroller. The court held that the record made before the commission fully justified the temporary increase in rates of fare authorized by the commission, and that such increase was necessary to meet the increased operating expenses incurred by the companies. In disposing of the issues involved, the court, among other things, said:

It is the argument of the city that the five-cent fare fixed by the contract afforded a fair and adequate return to the petitioners for their investment, and that it was so decided by the commission on April 25, 1919, after the extended hearings and investigation. The city offered the record of the former hearing as an adjudication that the five-cent fare was then reasonable and proper. It was not in any sense an adjudication or determination by the commission what would be a reasonable and necessary rate of fare under changed conditions. If the five-cent fare fixed by the contract, and determined to be still reasonable and proper on April 25, 1919, was just to the parties, it is beyond question that it was not just and fair after the operating expenses had been very greatly increased. In *O'Brien v. Public Utilities Commrs.*, 106 Atl. 414, the court expressed a view upon a similar question, as follows: "Assuming that the rate of five cents existing prior to the new conditions was a reasonable one, then the application of ordinary common sense will unhesitatingly lead every fair-minded person to the conclusion that it would not continue to remain reasonable if the cost of production so advanced as to destroy the basis upon which it was rested. The solution of such a proposition does not require the aid of legal learning. It is a question of economics which anyone of ordinary intelligence can apply."

The case of *City of Chicago v. Dempsey*, *supra*, was brought to the Supreme Court of the United States by a writ of error sued out by the City of Chicago to reverse a decision of the Supreme Court of Illinois. (*City of Chicago v. O'Connell*, 278 Ill. 591.) The question involved in this case was the power of the commission to regulate the service of the Chicago Street Railway Companies, it appearing that by an ordinance, accepted by said companies, the City of Chicago had reserved the right to make certain regulations as to service. The Illinois Supreme Court, in affirming the commission's order, held that the commission had authority, under the police power of the State, to regulate the service of all public utilities, notwithstanding the existence of ordinance contracts or other agreements to the contrary. The United States Supreme Court dismissed the cause for want of jurisdiction, thus affirming the decision of the Illinois Supreme Court.

The case of *Missouri Pacific Railroad Company v. Public Utilities Commission*, (292 Ill. 427,) involved the validity of section 31 of the Public Utilities Act, which provides that the commission shall charge every public utility a fee of 10 cents for each \$100 of bonds or other evidences of indebtedness that the commission may authorize such public utilities to issue. The court held that the imposition of this fee, when applied to a foreign railroad corporation that enters the State to engage in interstate commerce, imposes an unconstitutional burden upon interstate commerce and is, therefore, void.

In the Bartonville Bus Line case, (290 Ill. 574,) the bus company sought a certificate of convenience and necessity to operate a motor bus line upon and along certain public streets and highways between Bartonville and Peoria. The commission refused the certificate on the ground that it carried with it a certain implied right of monopoly, and that the bus line business was such that the granting of the certificate would in effect authorize a monopoly where the plant used was largely the prop-

erty of the public itself. The commission's conclusion was that no certificate should be granted authorizing the operation of motor vehicles over the public highways outside of cities and villages. The court held that the applicant came within the definition of a public utility engaged in the transportation of persons; that it was, therefore, the duty of the commission to consider the application on its merits and grant a certificate if the facts warranted; that the public policy as to the highways of the State must be declared by the legislature.

In the Mayer case, (290 Ill. 143,) the court held that a reasonable construction of the Public Utilities Act results in the conclusion that the legislature did not intend to include within the act ordinary expressmen in cities and towns.

In the Springfield Gas & Electric case, (292 Ill. 236,) the court sustained as valid the provision of the Public Utilities Act exempting public utilities owned by municipalities from the operation of the act. Such utilities are subject to the Municipal Ownership Act. The court reiterated the rule that the right to fix rates for all public utilities is vested, in the first instance, in the State. The court pointed out that there was such a distinction between privately owned and municipally owned utilities as to warrant the legislature in making a separate classification and treating each in a different manner, as, in this case, including one and excepting the other, and said:

The purposes of the Public Utilities Act were to prevent exorbitant rates, unjust discrimination and undue preferences in rates between different consumers and at the same time to protect public utilities from local influences which would compel them to render services at such low rates that efficient services to the public would be thereby impaired.

In the case of *State Public Utilities Comm. v. Springfield Gas & Elec. Co.*, (291 Ill. 209,) the Supreme Court laid down certain definite rules and principles governing valuation cases which hitherto have not been clearly enunciated. This is one of the most important decisions rendered. Its holdings may be summarized as follows:

The courts will reverse a rate-fixing order of the commission if a constitutional right of the utility has been infringed upon by fixing rates which are confiscatory or insufficient to pay the cost of operation and give the utility a reasonable return upon the present value of its property.

A public utility is entitled under the Constitution to a rate that will yield a fair return upon the value of its property used in the public service, and not merely a rate which is non-confiscatory; but the public, also, is entitled to demand that the rate be no more than the service is reasonably worth, and hence a rate must be fair both to the utility and to the public.

What is a just and reasonable rate is a question of sound business judgment based upon the evidence, and not one of mere legal formula.

The fair present value of property of a utility is the basis of rate-making calculations.

The fair present value is to be determined by considering original cost of construction, amount expended on permanent improvements, present cost of construction, probable earning capacity of the property under existing rates, and the sum required for operating expenses; and the cost of reproduction, less depreciation, is not the only basis for determining such value. Exchange value of the property of a utility is measured by the return and should not be considered as one of the elements in determining present value.

"Going value" is an element to be considered. A going concern has a value over and above the value of the physical property employed.

In determining operating expenses, the commission may consider the average operating expenses of such companies in other cities similarly situated.

The commission is not the financial manager of the utility and may not substitute its judgment for that of the directors of the company; nor can it ignore items charged by the utility as operating expenses unless there is an abuse of discretion in that regard by the corporate officers.

The rate of return must depend upon circumstances and locality. Among other things to be considered are risks, locality and interest on similar investments in that locality. A return of 7 per cent was approved.

The commission must state in its order its ultimate conclusions as to each element necessary to be considered in making its order.

The commission must in its final decision in all rate cases determine: (1) the present value of the property for rate-making purposes; (2) the rate of return to which the utility is entitled; and (3) the fair and reasonable rate to be charged for the service.

That it is equally important to the public and the utility that the rates established be just and reasonable.

Northern Pacific R. Co. v. North Dakota, ex rel., 250 U. S. 135, and *Burleson, Postmaster General, v. Dempsey, et al.*, 250 U. S. 191, involved the question of the extent to which the Federal control of the railroads and of the telegraph and telephone systems operated to supersede state control of these public service agencies.

The Public Utilities Commission of Illinois, joined with the commissions of other states in defending the right of the states to regulate the intrastate rates of these utilities. The Supreme Court of the United States held, however, that the Federal Government, under the war power, had the right to take over these utilities and to increase intrastate rates without regard to state action.

DIVISION OF STANDARDS

ROBERT F. ADAMS, *Superintendent of Standards*

In the preceding annual reports with reference to this division, attention was called to the inadequacy of the present law relating to weights and measures and to the great need in Illinois of a comprehensive code upon the subject.

The present law has of necessity some features that should become a part of a new code; for example, that portion thereof fixing the standard weights and measures of commodities in the State. With the exception of the amendment of 1917, providing for the inspection of gasoline measuring devices and the visitation of State institutions for the purpose of testing the weights and measures in use there, the present law is of no avail.

This law provides that county clerks shall, when authorized by the county boards, provide themselves with testing standards. A survey was made of the State to ascertain how many county clerks had so provided themselves with suitable outfits for this purpose, and after a rather comprehensive campaign all over the State to enlist the aid of county clerks and county boards to the end that more might equip themselves with the necessary testing apparatus, we learned that there were but ten such testing outfits in the State.

It is true that a number of cities of Illinois have, under the City and Village Act, enacted ordinances upon this subject, and are, through local inspectors within such cities, endeavoring to enforce the use of standard weights and measures.

Prior to the session of the General Assembly in 1919, we were convinced that the system as now obtaining on this subject should be radically changed, if not wholly discarded. As a result, after a great deal of investigation of laws of other states and of a model law prepared by the Bureau of Standards at Washington, a bill was prepared which was believed by eminent authorities to be most comprehensive. This bill was introduced in the Senate by Senator Atwood and was known in that session as Senate Bill No. 383.

The weight and measure law of this State, which the proposed bill was designed to repeal, placed the enforcement of the law in the hands of the county clerks under certain conditions. In going about the State testing the state-owned weights and measures in the various institutions and making such private inspections as were called for en route, our inspector was directed to call upon the county clerks to ascertain from them the sentiment in their localities with reference to the enforcement

of the law then in effect. Invariably the county clerks and county board members interviewed upon the subject stated that from the nature of things and because of the multitudinous duties imposed by law upon the county clerks, it was wholly impracticable for them to give any attention whatever to the testing of weights and measures in their respective counties. No doubt this is the reason that so few county boards have provided their clerks with testing apparatus, and in the judgment of this division this state of mind will continue to obtain.

We were led irresistibly to the only other theory known for the proper handling of the subject; namely, that a centralized State authority should administer the law. It was upon this theory that the Senate bill above described proceeded.

In the preparation of the bill, it was deemed advisable to place as much authority as possible in the communities having large cities, and so the measure excepted from State control cities with a population of 25,000 or more; but provided that inspectors appointed in such cities should be under the supervision of the State official charged with the duty of enforcing the law.

For the reasons outlined in the preceding report, opposition developed in the House after the bill had passed the Senate. In the rush attendant upon the closing session there was not opportunity to fully develop its merits, and for the lack of more time in which to enlighten properly the members of the legislature, the bill perished along with other meritorious measures.

Had the bill become a law, it was planned to divide the State into eight districts, governed largely by centers of population, and to place in charge of each district an inspector whose duty it would be to inspect, at least once a year, all weights and measures in the district, and to condemn all unlawful devices.

If ever in its history the State needed an adequate weight and measure law, it was during the past four years, when the people of our State experienced a period of exceedingly high prices.

The law as it now stands is practically useless, and so long as it is upon the statute books in its present form, reports of the activities of the division charged with its enforcement will prove dull and uninteresting.

During the period covered by this report, not more than eight requests for inspection of private scales or measures have been received, and considering the distant points in which these complaints arose they were given remarkably prompt attention. It was the policy of the division to require the inspector, in making his rounds of the State institutions as required by law, to stop at all places where complaints were made and endeavor to settle the difficulties by adjustment of the weights or measures in question. In this manner very satisfactory results were obtained.

During the year, 58 inspections were made of the weights and measures in State institutions and 10 inspections in normal schools and the University of Illinois. These, together with the 8 private inspections, made a total of 76.

In traveling from one State institution to another, the inspector was required to test gasoline measuring devices en route, and a total of 520 were thus examined. A great majority of those tested this year had been examined the year before, and it was found that in nearly every instance the owner of the device was pleased to see the representative of the department and anxious to have his pump tested. Fewer inaccurate devices were found this year than during the first year of our inspection. We learned that in practically every case the owner of the device was complying with the law and testing his pump each day.

During the year, the division collected \$5 for private inspections and \$259.50 for the inspection of gasoline measuring devices, making a total of \$264.50. This barely covered the cost of the gasoline used in the Ford car which carried the inspector and his equipment in his tours of inspection of State institutions.

Under the plan proposed in the Senate bill, of which mention has been made in this report, it was believed that quite aside from the resultant good accruing to the people of the State generally from having a stabilized system of accurate weights and measures, the cost of installation of such a system would have been covered by the fees provided for in the bill.

The importance of having an adequate weight and measure law in this State is so great that in our judgment the attention of the next session of the legislature should be directed in a forceful manner to its need.

DIVISION OF SMALL LOANS

The administration of the act of June 14, 1917, regulating the business of making small loans to needy persons, is committed to this department. A resume of the history of the law, its provisions, the activities of the department and the results will be of interest.

In every community, especially in the larger cities and the mining and industrial centers, there is a large class of people, principally wage earners and salaried persons, whose incomes under the most favorable circumstances are barely sufficient to remove them from the danger line of want and who find it difficult and often impossible to lay aside a surplus. Often a lack of conservative management contributes to this result. When extraordinary circumstances arise, such as unemployment, sickness, death, or the need for laying in supplies such as the winter's fuel, these persons are obliged to borrow, for their necessities are immediate and urgent.

The manufacturer, the merchant, the farmer, the carrier and the well-to-do, progressive and ambitious must borrow in order to carry on their legitimate operations; but there exists this other class of persons whose reason for borrowing is more imperative than that of the well-to-do. That reason is the need of food, clothing, shelter and other necessities of life. The immediate need for the necessities of life, in a thousand ways, calls for funds on the part of those who have no real or personal property to put up as security with the ordinary financial institution, the bank. The bank supplies the need of the person with credit or collateral, but it does not supply that much more numerous class which has no credit, and either does not own any property at all or owns only the kind which is not taken by banks as security. That class must go to another source for funds, for funds it must have, even more urgently and more frequently than the other class; and though the individual amounts of loans of this character are small, in the aggregate they are surprisingly large.

It was to meet the need for this class of loans that the Small Loan Act of 1917 was passed. It was prepared by the Russell Sage Foundation, which for many years has studied and experimented in this field and which is advocating the enactment of this law throughout the country. The act was sponsored by many civic and welfare bodies, and by citizens of all classes throughout this State.

The law became effective July 1, 1917. It provides that all persons who make loans of this class must procure from this department an

annual license for that purpose. They must pay an annual license fee of \$50 and give a bond of \$1,000 to the State, conditioned that they will abide by the provisions of the law. The Director of the department is authorized to examine the licensees and their books and records to see that the law is being observed; and may revoke licenses for violations. He prescribes certain books and records which shall be kept by them. Licensees must conform to certain requirements in making loans and collections, and upon payment of the loans. They are prohibited from doing many things to which lenders were formerly accustomed, such as taking powers of attorney to themselves to renew loans, and executing papers in which blanks are left unfilled. They are prohibited from taking interest in advance or compounding it, or making any charge for any service, brokerage, commission, or attorneys' fees, except the usual attorney's fee for foreclosure or entry of judgment.

Before the passage of the act the rate of interest on this class of loans ranged from 10 to 50 per cent a month and often more. It sometimes approached the prices charged by some of the profiteers of the present day and for the same reasons.

The act permits licensees operating under it to charge interest at a rate not to exceed $3\frac{1}{2}$ per cent per month. If interest or charges in excess of the rate permitted by the act are made, or charged, or collected, the loan is void; and in addition the penal clauses of the act may be, and sometimes must be, enforced upon the offender. The act also provides severe penalties by way of fine and imprisonment, or both, for its violation.

Under the authority of the act the department promulgated minimum requirements to be observed by the licensees with reference to the manner of making loans, the collection of interest and principal, and the keeping of books and accounts.

During the three years this law has been upon the statute books, the department has done a large amount of work in endeavoring to educate the licensees in a correct knowledge of the law and in the method of making loans in compliance therewith, and where the practices of lenders appeared wrong or doubtful, to correctly formulate rules and regulations for uniformity in administration of the act.

The department has studied and kept in contact with the business, and has acquired and compiled data concerning it. From the examinations and the data prepared and the experience which the department has obtained concerning the business, the following facts are demonstrated as the results of the operation of the law:

Loans range in amount from \$1 to \$300, which latter is the maximum permitted. The average loan under this law in Cook County is \$86; throughout the remainder of the State it is \$91; and throughout the entire State \$89.

Competition among licensees has reduced the rate of interest, and the average rate throughout the State is 3 1/10 per cent per month.

Interest is paid only on unpaid balances of principal and only for the actual number of days that the borrower actually has the use of the money. It is not paid in advance nor compounded.

All papers taken in connection with loans are now properly filled in before execution, and the rate of interest charged and collected is within the law.

There are very few foreclosures of mortgages, or suits to enforce payment. Substantially \$5,000,000 is loaned out annually in this class of loans in Illinois. Out of total loans aggregating over \$3,000,000 within a certain period, there were 47 foreclosures of mortgages, involving only \$7,735; 71 suits, involving only \$12,898, and 33 confessions of judgment, involving only \$2,740.

Complaints of over-reaching and of extortion, that were once so commonly made to police and other public officials, to lawyers and to legal aid societies, have almost entirely disappeared.

The law has also practically done away with the misleading advertising that was prevalent before its passage. It is believed the act has saved the necessitous people of the State hundreds of thousands of dollars each year in interest payments.

The law has been tested and sustained by the Supreme Courts of Illinois and Pennsylvania, both of which courts refer to the wisdom of the law and the necessity for its existence. Substantially the same law is in force in Maine, New Hampshire, Connecticut, Pennsylvania, New Jersey, Maryland, Virginia, Oregon, Georgia, Indiana and several other states. Public officials in charge of the administration of the law in the states where this law obtains speak highly of its good results. They are agreed that it has practically eliminated the loan shark evil, and that has been its effect in Illinois.

The business is now accorded the same recognition by the public as that generally given to other industrial and commercial enterprises.

RULINGS

During the past year the department has found it necessary to make but two rulings of importance so that the law might be uniformly observed by licensees throughout the State.

Some confusion has arisen in the minds of the licensees as to the exact meaning of the last paragraph of section 2 of the act, which is as follows:

No person shall owe any licensee at any time more than three hundred dollars (\$300) for principal.

For example, in the examination of the records of licensees it was discovered that a licensee would loan \$300 to "A" with "B" as surety therefor; then on the same day or at a not far distant date would loan

"B" \$300 with "A" as surety. The department believed that this was an evasion of the above quoted section of the law, and after careful consideration of the matter determined that this practice should not be further followed by licensees. The following ruling was promulgated:

All persons primarily or secondarily liable on any note shall be considered to be within the provision "No person shall owe any licensee at any time more than three hundred dollars (\$300) for principal."

And further, for the convenience of the examiner in ascertaining whether or not this ruling was being observed, each licensee was required to show upon the index card of the borrower the number and amount of each note endorsed by him and upon which he was secondarily responsible. The same information was required to be kept on an index card where a co-signer or endorser (not a borrower) signed more than one note.

Upon examination of the records of licensees it was discovered that full and complete records as to the disposition of collateral, upon sales thereof in default of payment of the notes, were not properly kept in the files. A very large proportion of such collateral consisted of liberty bonds. This loose practice did not obtain so largely with reference to the ordinary chattel property secured by mortgage, as in most cases the licensee kept a copy of the records he was required by law to send to the mortgagor upon foreclosure of the mortgage.

Believing that some general rule with reference to the sale and disposition of collateral should be given, the following was prepared and sent to each licensee who did not keep proper records as to such collateral, to-wit:

When a licensee accepts collateral security or a pledge, other than evidenced by mortgage, for repayment of a loan, and the collateral security or pledge is realized upon, a full and complete record should be kept by the licensee, showing whether or not notice of the sale was given to the owner of the collateral; whether the sale was public or private; the name of the purchaser at the sale; the actual amount received for the collateral; an itemized list of costs and disbursements in the sale of the same; and application of the proceeds. From this record the examiner can determine whether or not the licensee received the exact amount due upon the original loan. If more than the amount actually due is thus received, the excess should be immediately returned to the borrower.

It has been very gratifying to those administering the law to know that when the attention of licensees was called to transactions covered by the above ruling, the directions of the department were faithfully carried out.

During the year just ended there were comparatively few complaints as to violations of the law, and it may well be said at this point that 95 per cent of such complaints concerned persons who were not licensees. Complaints with reference to the transactions of licensees have, upon investigation, been generally found to be the result of misapprehension of the law or of the rulings made by the department for its uniform administration.

As above stated, complaints with reference to those who were not licensees have been few. The department attempted to investigate and to bring to trial such alleged violators, but almost invariably the person making the complaint failed to furnish us sufficient data upon which a proper investigation could be made, and any concrete results of such investigation failed to produce conviction. While the department does not feel that it is justified in assuming the role of a policeman, yet when legitimate complaints are received, nothing is left undone in order thoroughly to investigate them and endeavor to bring the offenders to trial. The department welcomes lodgment with it of such complaints and will continue its investigation of violators of the law, believing that those who have complied with the law and are endeavoring to follow its provisions should be protected against improper practices of those who have made no attempt to do so, and further, that the unsuspecting public should be protected against the rapacious methods of outlaws.

STATISTICS

The department has continued its policy of causing the office of each licensee to be examined at least twice each year. During this year there have been 106 examinations in Cook County and 117 downstate, making a total of 223. For this period 60 licenses have been issued to Cook County applicants, and to downstate applicants 73, making a total of 133, or 5 less than were in full force and effect on June 30, 1919. Removal consents have been secured by 3 licensees in Cook County and by 2 downstate. During this entire period there were no cancellations of licenses.

The department approached its task in 1917 not without suspicion of the efficacy of the new law. It is fair to say that its experience since that time has entirely changed this feeling and convinced it that the act of 1917 is wise and beneficent.

During the three years in which this law has been in effect in Illinois, the department has placed great stress upon educating the licensees to a strict adherence to the spirit and letter of the law; first, that licensees might be assisted in the keeping of proper and accurate records of their transactions; and second, that the interests of the borrowers might be safeguarded by the existence of these records. The department feels that this two-fold purpose has been achieved, and that with its accomplishment, administering officials may, with just pride, point to duty well performed.

Report of
THE DEPARTMENT OF REGISTRATION
AND EDUCATION

From July 1, 1919, to June 30, 1920

STATE OF ILLINOIS
THE DEPARTMENT OF REGISTRATION AND EDUCATION

FRANCIS W. SHEPARDSON, *Director*

THE NORMAL SCHOOLS

Illinois State Normal University, Normal; DAVID FELMLEY, L.H.D.,
LL. D., *President*

Southern Illinois State Normal University, Carbondale; HENRY W.
SHRYOCK, A.B., *President*

Northern Illinois State Normal School, DeKalb; J. STANLEY BROWN,
LL.D., *President*

Eastern Illinois State Normal School, Charleston; L. C. LORD, LL.D.,
President

Western Illinois State Normal School, Macomb; WALTER P. MORGAN,
PH.M., *President*

THE NORMAL SCHOOL BOARD

FRANCIS W. SHEPARDSON, *ex officio*, Springfield, *Chairman*

FRANCIS G. BLAIR, *ex officio*, Springfield, *Secretary*

ROLAND BRIDGES, Carbondale, (1925)

CHARLES L. CAPEN, Bloomington, (1925)

JOHN C. ALLEN, Monmouth, (1925)

FRANK B. STITT, El Paso, (1923)

LEROY A. GODDARD, Chicago, (1923)

WILLIAM B. OWEN, Chicago, (1923)

FRANK E. RICHEY, LaSalle, (1921)

HENRY A. NEAL, Charleston, (1921)

ELMER T. WALKER, Macomb, (1921)

THE SCIENTIFIC SURVEYS

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Water Survey, EDWARD BARTOW, PH.D., *Chief*, Urbana

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THE DEPARTMENT OF REGISTRATION AND EDUCATION

By legislative enactment the work of the department was extended through the creation of the Immigrants' Commission which was established to make a survey of the immigrants, of their distribution, conditions of employment and standards of living, to examine into their customs, prudential arrangements, organizations and needs, to keep in friendly touch with alien groups and to cooperate with Federal, State and local officials. The department was extremely fortunate in securing as the Executive Secretary of this commission Miss Grace Abbott of Chicago who had been associated with the Immigrants' Protective League and whose work had brought her a national reputation. The work of this commission was not fully organized until February 1, 1920.

The legislature also passed a law regulating the practice of optometry in the State and placed the administration of this act with the department.

There were two notable changes in the personnel of the department. One was the withdrawal of Mr. E. A. Wreidt as Assistant Director, in order to become Supervisor for Industrial Education under the State Board for Vocational Education. As he had specially trained himself to enter this new field, the change was distinctly to the advantage of the State of Illinois. The other was the election by the Normal School Board of J. Stanley Brown of Joliet to the presidency of the Northern Illinois State Normal School. Mr. Brown had had twenty-five years' experience as a teacher and superintendent in Illinois and had won national distinction by his successful administrative and teaching work. Changes in the membership of the various boards and examining committees were few, the policy of the department being to develop, through experience, efficient cooperation by the retention throughout the administration of interested workers. All divisions of the department were conducted with administrative prudence so that it was possible to close the year 1919-1920 with all obligations met and with a balance of \$70,000 of unused appropriation.

NORMAL SCHOOLS

The third year of operation under the consolidated Normal School Board, provided for in the Code, was marked by a spirit of harmonious cooperation. The personnel of the board remained unchanged. During the year the board held meetings as follows: at Springfield, August 11, 1919; at Macomb, October 27, 1919; at Normal, November 17, 1919; at Carbondale, December 8, 1919; at Charleston, January 12, 1920; at DeKalb, April 22, 1920, and at Springfield, June 21, 1920. The minutes of these meetings have been printed and are available for the information of any one interested. Each member has taken an active interest in the business of the board and attendance upon the meetings has been uniformly regular. Prior to each meeting, the presidents of the normal schools have had a conference, seeking to secure unity of administrative purpose where possible without interfering with the individuality of the several institutions. Reports of the presidents are herewith presented:

THE ILLINOIS STATE NORMAL UNIVERSITY

The year has been in this institution a period of recovery from the havoc wrought by the war. The attendance increased 29 per cent. Most of the pre-war activities of the students have been revived. The vacancies in the faculty have been filled and the morale of the school has been notably improved.

We find, however, that it will take several years for the normal schools to regain the position they held in 1916. The financial strain of the war and the rising cost of living has turned the attention of our people to money getting. Teaching, never well paid, is now so poorly recompensed that few young people are looking to a career in this field. The scarcity of teachers has caused school boards to employ young high-school graduates, and undergraduates who could obtain an emergency or provisional teacher's certificate. Under ordinary conditions, hundreds of these would be in the normal schools to obtain the required preparation.

In the spring of 1920 we organized a campaign for new students. An appeal was made to high-school principals, superintendents, and especially our alumni to urge young people to prepare for teaching. Several thousand copies of a pamphlet, "The Outlook For Teaching," were distributed to high-school principals. In June, there were many evidences that the campaign was successful. The enrollment of students

in the mid-spring term was 202, in the first summer term, 1,989. Later developments, however, have shown that the continued scarcity of teachers combined with the relatively high salaries now offered will cause many of these young people to postpone their attendance at the normal schools.

With the universities overcrowded and the normal schools underpeopled it may be wise to adopt as a temporary measure of relief the plan adopted in Wisconsin, where junior college classes have been established in the normal schools. The college students fall into many of the regular normal-school classes. Some new classes are provided. Few additional teachers are required. Money is saved to the state. Further congestion and profiteering at the state university are forestalled. The testimony of the Wisconsin normal schools is generally favorable to the plan.

During the past year we have continued correspondence courses for teachers with the nominal fee of one dollar. We find that it is easy to obtain a large enrollment in the fall, but only a few persist to the end of the course. We have concluded that such courses are not held in high respect by the student because they cost him too little. The additional labor imposed upon our faculty is too large for the results obtained. We shall discontinue these correspondence courses in all subjects except Geography until readers are available to inspect and grade the lessons sent in.

The growing interest in physical education has made it advisable to add a third teacher of this subject for women students. We are now making a more thorough physical examination of all students, are prescribing an individual regimen for the subnormal and special cases, and are giving extended courses in play-ground management, organized games, and athletics for women. So many of our young women desire to become special teachers or supervisors in this field that we have decided to offer a special curriculum in physical education. This curriculum will demand one additional teacher after September, 1921. The most urgent need on our building program is a well-equipped gymnasium.

The curriculum offered in Home Economics by this institution satisfies the general requirements of the Smith-Hughes Act, but there is needed a cottage for practical demonstrations in household management. The last General Assembly appropriated funds for furnishing such a cottage, which we expected to rent. The higher rents prevailing during the past year would have been burdensome if charged against the students. The Smith-Hughes fund due this institution should have borne half of this expense. Up to this time we have been obliged to turn into the State Treasury the annual payments made from this fund.

This institution has been most fortunate in securing the services of Mr. H. A. Bone as head of the department of rural education. He is gifted with unusual insight into the problems of rural life and rare enthusiasm for this work. A curriculum in rural education has been

organized for high-school graduates, and it is hoped that we shall soon be able to furnish well-equipped teachers for supervisors of country schools and for such high schools as undertake to give a year's professional training for country-school teachers.

After a prolonged conference with a committee from the University of Illinois, this institution has been rated a college in Class B, which means that graduates of our full four-year course are admitted to the graduate school of the University with a condition of from eight to sixteen semester hours, but this condition will be scaled downward for good work, and will be entirely cancelled in the case of a really superior student. The rating thus accorded by the University of Illinois is as high a rating as a teachers' college may hope to secure without a radical change in its organization. This action of our State University will secure for us a similar rating in all other graduate schools throughout the United States.

Our attendance for the year ending June 10, 1920, has been as follows:

Senior College graduates (with degrees).....	13	
Junior College graduates (for high-school teaching).....	39	
Normal school graduates.....	90	
		142
Students in Teachers College (regular terms).....	131	
Students in Normal School (regular terms).....	389	
Students in Mid-Spring term (1920).....	202	
		722
Enrollment First Summer Term (1919).....	1,743	
Second Summer Term (1920).....	523	
		2,266
Total		2,988
Deduct names counted twice.....		383
		2,605
Different resident students.....		220
Correspondence and Extension students.....		258
High School students.....		623
Elementary School pupils.....		343
Pupils in S. O. Home.....		
Total students and pupils.....		4,049

DAVID FELMLY, *President.*

SOUTHERN ILLINOIS STATE NORMAL UNIVERSITY

The school year in most respects, was uneventful. The following table exhibits the essential registration facts for the past five years. It also displays somewhat graphically the attendance ebb and the somewhat retarded, but nevertheless clearly developed, return flow.

ATTENDANCE BY TERMS—SUMMER SESSION 1916 TO SUMMER SESSION 1920.

	Summer session.	Fall term.	Winter term.	Spring—Mid-Spring terms.	Normal graduates.
1916.....	952	973	873	1,153	55
1917.....	554	722	728	1,153	104
1918.....	414	607	709	768	90
1919.....	662	746	612	804	64
1920.....	625	-----	722	878	116—H. S. 45

It will be seen that we are somewhat slowly, but surely, recovering from the shock of the war.

The school graduated 116 students from its normal department. A few decided not to enter the teaching profession at once, but to continue their preparation. Practically all who wished to teach, with possibly two or three exceptions, had made contracts before commencement day. One of the young women signed a contract at \$845; one at \$900; a few at \$1,000; a larger number at \$1,050; a still larger number at \$1,260; three at \$1,350; two at \$1,440; one at \$1,575; and one at \$2,000; the average of all the young women in the class being more than \$1,200. Five of the young men made contracts at \$1,500; another group at \$1,600; four at \$1,800; four at \$2,000; one at \$2,300; and one at \$2,400; the average of all the young men being more than \$1,800.

It may interest the friends of the school to know that 36 of our young people will teach in Chicago suburban towns. Granite City, Illinois, has taken the second largest group. Two of our young women will teach in Cleveland, Ohio; a half dozen will go to western and north-western states; the rest are scattered over the central and southern part of Illinois.

The school held its first commencement exercises in June, 1876, with a graduating class of five. Up to 1916, the first forty years of the school's history, 722 persons, or an average of 18 per year, had been graduated; but approximately 25 per cent of these had completed only the four years of secondary work.

In June, 1920, we graduated 116 persons from the normal department, or junior college, and 45 from the high school; a total of 161, more than one-fifth as many as the school sent out in the first forty years of its work.

H. W. SHRYOCK, *President*.

NORTHERN ILLINOIS STATE NORMAL SCHOOL

The attendance for the year was 20 per cent higher than the previous year. The attendance for the summer school was 603, a wholesome increase over last year. Post-war conditions, affecting every form of organized society, affected the normal school.

The scarcity of teachers was never so great. The advance in salaries in all schools controlled by local boards or municipalities has been a wholesome one, and if this advance keeps pace with the increasing costs in other fields we may expect that the losses in the teaching body will be made up within the next decade.

The normal school has continued to perform its definite function in preparing teachers for the public schools in the State, but it is impossible to supply the demand for trained teachers at present. We graduated more than one hundred young women and young men. All have been located for the next school year at salaries ranging from \$1,000 to \$2,300. A considerable number of these young people are to receive

higher salaries next year than fifteen or sixteen of our normal school faculty.

The outlook for next year is encouraging when we consider the number of high school graduates applying for entrance. It is not so encouraging when we consider that we are losing fourteen or fifteen members of our faculty and are face to face with the difficulty of engaging successors for them with the small amount of money at our disposal.

This institution will offer a four-year course for high school graduates beginning in September and will offer work of high school grade for Lindley Scholarship students and others of like preparation to the number of 50, if that number wishes to enter.

The plan under which we are working now to unify the normal schools of the State by having them conducted under one board and through the Department of Registration and Education has, on the whole, worked well, and there is every reason to believe that the continuance of this plan of unification and centralized management will bring a greater and greater degree of satisfaction to the State normal schools of Illinois.

J. STANLEY BROWN, *President*.

WESTERN ILLINOIS STATE NORMAL SCHOOL

The year ending June 30, 1920, has in many ways been a difficult one. The budget under which the school has operated during the year was made out in October, 1918. Estimates included in this budget were based on prices, salaries and wages then current. Since that time everything which the school has used in its general operation has increased in price from 25 to 50 per cent and even more. Laboratory equipment, shop equipment, and general equipment has increased at like rates. Thus the amounts provided by the Fifty-first General Assembly as proposed in this budget were quite inadequate to meet the needs of the school for operating expenses and the purchase of new equipment.

The salaries provided for faculty members and other employees of the school were likewise far too meagre. At the end of the year, out of a faculty of 39, 13 members either resigned outright or asked for leaves of absence. Some of these went to other schools which pay better salaries; some decided to study while salaries were low with the hope that they would be better within a year; and others decided to go into other occupations which offer larger rewards for one's time. The 26 members who did remain in large measure did so only because the Normal School Board went on record unanimously as favoring a general 50 per cent increase in salaries for teachers and employees for the next biennium and likewise agreed to ask for an emergency appropriation from the Fifty-second General Assembly to be distributed on salaries for the year 1920-21 in an effort to make them somewhat more nearly what they should be. To fill the vacancies caused by these resignations and leaves of absence, it has been almost impossible to secure teachers with

as much preparation and experience as the ones who have left. Besides, only 10 of the 13 positions have been filled and three vacancies still remain, even after weeks of effort to fill them. In order to fill the ones that have been filled it has been necessary to hold out the inducement as provided by the board in its stand for better salaries. If our present high standard of qualifications for faculty members is to be maintained, additional funds must be available almost immediately for increase in salaries.

Janitors, firemen, yardmen, and general workmen have come, worked a few days or weeks, asked for more money, been refused because it was not available, and have quit. Others have been secured to take their places for longer or shorter periods. The two or three persons in this group who have remained have been those who are paid the highest salaries and who have had faith that they would be cared for by increases such as have been proposed and adopted by the Normal School Board.

From the standpoint of the student body the attendance has been somewhat unsatisfactory because we have not fully recovered from the effects of the war. The industries have renewed their energies to make up for lost time and in doing so have offered additional inducements to secure labor. The slowness with which the salaries for teachers met the increase in other lines caused many to desert the profession and others, who were prospective teachers, to change their plans. The scarcity of teachers thus created led school officials to induce young people who should have attended normal school to begin teaching without this training. On that account the senior class, and even the junior class, was very much depleted. Those who had been planning to complete the college curriculum either gave up the notion or deferred it. Thus, while the attendance was somewhat greater than in the previous year, the increase was caused by the addition of more students below college grade rather than in the college department.

To add to our other difficulties the school experienced an outbreak of smallpox. All the students were subjected to vaccination and the work of the school generally interfered with. A few cases of influenza added to this unsatisfactory condition.

There is, however, another side to the story which enables us to recite more satisfactory things with respect to the school and look forward to a reaction which portends a brighter future. The conditions above mentioned have become matters of concern to the general public, which has given attention to the whole problem of public education in much larger measure than heretofore. Thus the public has become interested in legislation providing for more money for education, especially legislation which will provide better salaries for teachers. The same general public has discovered that the profession of teaching, if it can be called a profession in its present condition, must be placed on a higher level of respectability and appreciation. In fact, the public has

reached a point where it is willing to blame itself for at least some of the present difficulties.

School officials have been at work everywhere to improve the schools and provide teachers and keep up their standards. They have sought permission to levy higher taxes and pay better salaries. This permission has been granted in many cases.

The National Education Association has put on a nation-wide campaign in the interest of education and teacher training. Influence has been brought to bear for national legislation providing for revenue from the Federal Government to assist in public education and the training of teachers.

All of these things have tended to produce a better atmosphere about the school and public attention has been directed this way. Parents have accepted their responsibility in advising their sons and daughters to prepare themselves to meet this need in the State. In general the quality of students now entering the normal schools is good; probably on the whole these students are a somewhat more select group than formerly.

The general organization of the school has not been unusual. The faculty members and those interested in the school have cooperated to keep it up to standard. Everyone concerned has remained loyal in his efforts to serve the State. The situation with which the school has been confronted has been unusual but it has survived and maintained its former standards in large measure because of this loyalty.

The attitude of both student body and faculty is such that with proper funds to care for the school, including money enough to pay salaries in keeping with present conditions, provide for fuel, light, water and other operating supplies at the new prices, and secure equipment in keeping with our growing needs, this school may continue its work in its present field and in addition provide for the college curriculums which have been organized to meet the demand for higher training for teachers for both elementary and high schools. It is hoped that the school may have this opportunity to broaden its usefulness.

W. P. MORGAN, *President*.

EASTERN ILLINOIS STATE NORMAL SCHOOL

The year has been better for this school than the preceding year. and the outlook for the immediate future is encouraging. However, it is not clear how best to attract talented young persons to the teachers' calling.

A money inducement sufficiently large to compete with possible incomes in law, medicine, or business can never be offered, and if money is the great inducement the best talent cannot be drawn into teaching. And it is difficult to arouse the desire for service to one's fellows, for influencing lives, for helping character, and all the rest which largely form the motive in the choice few. But it seems fairly certain that financial reward will be much greater and that the teacher's standing

in general will be better than in the past. So far as this school is concerned, it is of cardinal importance that very much larger salaries be paid, as some one has said, "not to reward virtue but to attract virtue." It is an anomalous situation when the graduates of a normal school the first year after graduation receive a salary larger than is paid to those who taught them.

This school for the first time held a second six weeks' term, July 19 to August 27, and the attendance as shown below seems to justify the additional term.

STATEMENT OF ATTENDANCE—TWELVE MONTHS ENDING JUNE 30, 1920.

Normal School—

Regular year—September 15, 1919, to June 4, 1920.....	277
Summer term 1919.....	734
Summer term students counted in regular year.....	61
Total attending in summer term only.....	673
Senior High School.....	82

Training School—

Junior High School—	
Ninth grade	74
Seventh and eighth grades.....	64
	138
The first six grades.....	207

Grand total **1,377**

Counties represented	42
Other states represented.....	9
Teachers on faculty.....	40

SUMMER SCHOOL 1920

First six weeks' term.....	823
Second six weeks' term.....	120

LIVINGSTON C. LORD, *President.*

THE SCIENTIFIC SURVEYS

The scientific surveys located at Urbana in close cooperation with the University of Illinois, have been busily engaged in research work of great value to the State. They have been cooperating with organizations of various kinds in different parts of Illinois, with local administrative officials and with other departments of the State Government. Edward Bartow, chief of the State Water Survey, was honorably discharged from the United States Army on July 23, 1919, and returned to his work for the State, which, during his absence in service, had been admirably handled by Engineer G. C. Habermeyer as acting chief. Dean David Kinley, being chosen acting president of the University of Illinois, retired from the Board of Natural Resources and Conservation, designating Dean Kendric C. Babcock to act in his stead. By a wise provision of the Code, this board may act through sub-committees, each consisting of the director of the department, the representative of the president of the University of Illinois, and an expert specialist in the given field. Quick action is thus easily obtained without a meeting of the entire board. Only one such meeting was held during the year, at Urbana, on October 4, 1919. The activities of the individual surveys are shown in the following reports:

NATURAL HISTORY SURVEY

The operations of the Natural History Survey during the year ending June 30, 1920, have been mainly in the direction of a continuance of the biological survey of the Illinois River, with special reference to the effect of pollutional conditions on the plant and animal life of the stream; in preparations for a systematic forestry survey of the State and a commencement of operations in that field; in precise vivarium experiments on the effects of weather conditions on the multiplication and welfare of the chinch-bug, the codling moth, and the Hessian fly; in measures for the protection of farm crops against destructive outbreaks of the chinch-bug, the army worm, and the grasshopper; in continuous studies of the seasonal life history of the codling-moth leading to recommendations to fruit growers as to the precise times of spraying necessary to produce the best effect; in widespread extension work in economic entomology undertaken in cooperation with the county farm bureaus and the extension department of the College of Agriculture; in studies of the insect life of the forests and the waters of the State; and in the increase and improvement of the insect collections of the survey, now among the most important in the country.

Our field entomologists have also done a great amount of scouting in all parts of the State to ascertain whether the notorious European corn-borer has yet made its appearance in Illinois; have continued their work on the mosquito survey of southern Illinois, undertaken with reference to the control of malarial disease in that part of the State; and have carried on their stated programs of field observation and experiment on the Hessian fly, on insects injurious to clover seed, and on certain orchard insects, of which the apple flea-weevil is perhaps the most important.

Interest in our Illinois River work has been greatly stimulated by the progressive sewage pollution of the river, a subject concerning which the product of the Natural History Survey gives ample information of a kind nowhere else available to those representing the public interest. An address on this aspect of our results was made in October, at Peoria, by Mr. Richardson, in charge of our river work, at the invitation of the Peoria Rotary Club, and this was followed by a general conference held at Peoria last February of officials of the Sanitary District of Chicago, committees of the Chamber of Commerce and the Rotary Club of Peoria, and representatives of the other principal river towns. At the request of the Division of Waterways a careful study of the whole subject was made by me last spring, and a discussion of it with special reference to possible remedies was sent to the Superintendent of Waterways, April 15.

One of the principal remaining problems in this field is that of the effect of Peoria Lake (through which the Illinois River flows) upon the polluted waters coming into it from above; and preparations were made in June for a summer's work on this subject, a task in which we have had the cordial assistance of the Water Survey and the Geological Survey of the State. The Division of Game and Fish has also come to our relief by giving us the use of a gasoline launch to take the place of our own launch, disabled by the failure of its engine. This Peoria Lake work is now in progress, but its results must be reserved for a later report.

The greater part of the time of the Illinois River biologist during the past year has gone to the completion of a comprehensive, detailed report, now on press, on his studies of the bottom fauna of the Illinois River and the lakes of its vicinity.

The forester of the survey, coming to Illinois at the beginning of the year from one of the Canadian provinces, has necessarily given much time to getting an accurate knowledge of the Illinois situation. In the absence of any special appropriation for forestry work, it has been impossible for him to begin detailed survey operations, as for this a well-equipped party of at least three men is the minimum necessary. He has, however, made choice of a township in Union County, and of this he is now making, unaided, a general survey or reconnaissance sufficient to

enable him to map the forested areas and to describe them in somewhat general terms.

In order to lay foundations in public opinion and interest for a further development of his work, he has made many addresses to clubs, farmers' institutes, schools, teachers' institutes, and other organizations, and has given a short course of lectures to students of landscape engineering in the College of Agriculture.

We have issued and widely distributed a circular on "A Forestry Survey and a Forester for Illinois," and another on fire prevention in this State has been in press for over three months, but is not yet printed. Articles have been prepared for the State Arbor and Bird-day Bulletin, for the Illinois Agriculturist, for Farm and Home, and for the American Forestry Magazine, and much use has been made of the newspapers of the State for the publication of short items and longer articles. Many forest properties have been examined and reported on, at the request of agents of the county farm bureaus or of the property owners themselves. The forester has traveled widely for the selection of tracts suitable for State demonstration forests, and the opportunity has been improved to assist in the selection and description of tracts available and desirable for State parks, these two objects being kindred and mutually helpful.

The proper development of forestry work will require present provision for three distinct lines of operation to be carried on by as many different parties: viz., a detailed survey of existing forests, involving the identification and measurement of some 10 per cent of the trees on selected tracts; a study of deforested lands, made with a view to an estimate of their values for general agriculture and for permanent forestry respectively; and an economic survey of the situations and surroundings of forest properties with special reference to existing and probable demands for their products, and to cost of production, means of transportation, and the like, all necessary to intelligent conclusions as to the most profitable uses of such lands.

In the vivarium, experiments have been continued and verified upon the effect of various degrees of temperature and humidity on the life history of the codling-moth. Evidence was thus obtained that variable temperatures above and below a given mean were more stimulating to development than a constant temperature maintained at that mean; that differences of thirty degrees in humidity are about equivalent in effect to differences of ten degrees in temperature; that the presence or absence of rainfall has an effect upon the number of generations, independent of the atmospheric temperature or humidity prevailing; and that variation in the mere movement of the air, with resulting loss of fluid by evaporation, also has an effect on the life history.

Similar experiments with larvae and pupae of the Hessian fly showed that at a constant temperature of 63.5° F., an increase of atmospheric humidity from 55 per cent to 92 per cent might shorten the dormant

stage of the insect by 20 per cent, and that at 83° F., a humidity increase from 74 to 95 per cent might shorten the period by 36 per cent. A beginning has been made on a study of the effects of variations in light exposure upon the life history of this insect; and studies have been continued on the number of generations of the chinch-bug, on the rate of its multiplication, and on the length of each of the stages of its transformation, under like variations in heat, humidity, light and evaporation.

A field study of differences in acidity of the waters inhabited by fishes appears to show that their occurrence and numbers and the presence of their food is correlated with this factor.

While our exact experimentation with perfected apparatus for the control of conditions may seem to the uninstructed to have a technical value only, it is really furnishing us our first dependable knowledge of the causes of the appearance and disappearance of insect outbreaks and of the varying degrees of injury which may be inflicted by insect pests in different seasons—a kind of information which has a high degree of practical value to those whose duty it is to advise farmers and orchardists what to expect and to prepare for in any year, and what measures of precaution or remedy should be taken in consequence.

Highly useful and much appreciated work of this kind is being done by the field entomologists, who followed the life history of the codling-moth carefully through the year in a way to enable them to give general notice to fruit growers, at least a fortnight in advance, when insecticide sprays may be applied to the best advantage for the control of the second and third generations of this insect.

Among the results of the experimental work of these entomologists mention should be made of the operations for the destruction of the apple flea-weevil, now the worst insect pest of the orchard in some parts of southern Illinois, and of the apple leaf-hopper, which has rendered potato growing unprofitable, even at present prices, in many parts of the State.

Comparative tests have been made of insecticide operations against the peach-tree borer, the San Jose scale, the oyster-shell scale, the codling-moth, and the grasshopper, and experiments have been continued under unusually favorable circumstances on the seasonal history of the Hessian fly and methods of avoiding its injuries. Fresh observations and new experiments have been begun on the general assemblage of insects infesting the clover plant, with a view to testing and improving methods of avoiding injury to the seed. This inquiry must be continued for at least three more years before definite conclusions can be reached.

By way of educational and extension work, much special advice has been given to county agents and farmers in the management of the insect outbreaks of the season; addresses on entomological subjects have

been given to thirty-six meetings of farmers and county agents in different parts of the State; conferences with entomologists and agricultural workers from other states have been attended; seasonable warnings of threatened outbreaks of various insects, especially the Hessian fly, the chinch-bug, and the army worm, have been sent out through the agricultural press and separately to all farm bureaus and farmers' institutes: the daily press and the county agents' publications have been utilized for the distribution of timely information; some 2,200 letters have been written in reply to inquiries from correspondents concerning insect injuries, and exhibits of injurious insects have been prepared and shown at twenty-five county fairs in various parts of the State.

A few particulars may serve to give an adequate idea of the amount of our extension service. As an incident to a campaign against a grasshopper outbreak in ten counties of the State, 10,000 circulars on control measures were distributed and requests were received for 5,000 more which could not be supplied because of delays in printing. Several thousand pounds of poisoned bait were used by farmers, and some hundreds of grasshopper catchers were constructed by them according to the directions of our circular. By their use, half a ton of grasshoppers was captured in a single 30-acre field of clover, and averages of two and three bushels per acre, at the rate of 200,000 insects to the bushel, were taken in many large fields.

About 15,000 circulars were distributed giving instructions for defensive operations against the chinch-bug; and 2,500 letters of information and advice concerning spraying operations against the codling-moth were distributed to apple growers. Forecasts and warnings of a great increase in the abundance of the Hessian fly were sent out in the fall of 1919 through the daily and agricultural papers, to farm bureaus, and to farmers' institutes, with the result that many hundred of thousand bushels of wheat were saved by those who heeded our warnings and postponed sowing their wheat until the "safe date" for the year, all early-sown wheat in central and southern Illinois being severely injured or entirely destroyed.

In all this extension work we have had the general and very cordial cooperation of the county agents of the farm bureaus and of the extension service of the College of Agriculture of the University of Illinois. For the southern Illinois mosquito survey, upon whose successful prosecution and application the health of many citizens, and the lives of a considerable number, are actually dependent, we have had available only fragments of the time of one of the field entomologists. Having finished last year a survey of the towns of Carbondale and Murphysboro, in Jackson County, and published his report as a Survey Bulletin, he has this year begun similar work in a radically different situation at Herrin, in Williamson County.

In the highly important and long neglected department of plant parasites of the crops of the State, research in which belongs according to the Civil Administrative Code, to the Natural History Survey, we have been able, in the absence of special appropriations for the purpose, to make only a small beginning by providing funds for traveling expenses and the pay of an assistant to the professor of plant pathology in the University of Illinois, for the purpose of enabling him to investigate the root-rot of wheat, a very destructive disease newly discovered in this State, and generally but erroneously called "take-all." A bulletin relative to the literature on the subject has been published by the survey, and a comprehensive report on it is now in course of preparation.

The insect collections of the survey, upon which two systematic entomologists are at work, are serving several important functions. They are indispensable to the accurate determination of insect specimens on which the economic entomologists need authoritative information; they are much referred to in person and by letter by many entomologists throughout the country and in Europe; through them the science of entomology is being notably advanced by way of many important technical papers published; and they are gradually being made ready for the preparation of final reports on the more important insects of the State, similar in scope and usefulness to those already published on Illinois birds and fishes.

STEPHEN A. FORBES, *Chief.*

THE GEOLOGICAL SURVEY

The Geological Survey has continued its fundamental study of the geology and the mineral wealth of the State, but in addition has made investigations and carried on routine surveys of a related kind which have to do with the land surface, the reclamation of valleys, and other applications of geology to engineering. Considerable work of a practical kind has been done for, and at the request of, other divisions and departments of the State Government, thus responding to the idea expressed in the Administrative Code that the scientific divisions, in their respective fields, should conduct necessary investigations for other State agencies. Thus, the areas mapped topographically have been selected in part so as to assist the Division of Highways in determining favorable locations for roads without expensive preliminary surveys. A more rapid completion of the topographic map would serve as an economy in the road-building program. Similarly, a state-wide search for road materials, in cooperation with the Division of Highways was about half finished, and a progress report with recommendations was filed.

The survey also assisted the same division with plans for a splendid road map of the State. Several other examinations involving surveys and studies of rock materials and behavior of foundations have been conducted for the Department of Public Works and Buildings and for the Department of Public Welfare. There has been cooperation also with the Secretary of State regarding the valuation of properties of oil

companies desirous of qualifying under the Securities Law. In these several useful ways the survey has enlarged its program beyond the usual scope of geological and mineral investigations.

The topographic survey of the State, already mentioned, was continued in cooperation with the U. S. Geological Survey, and areas totaling about 700 square miles were mapped in Lake, Fulton, Union, and adjoining counties. The increasing appreciation of the usefulness of these maps in selecting and building roads, interurban lines, and city water supplies, and in planning the reclamation of wet farm lands commends a much more rapid program. Only one-third of the State has been mapped during the past fifteen years.

In connection with drainage of wet lands the survey was given a special appropriation and began a study of the engineering and legal aspects of the problem in those scattered, but in the aggregate, large areas which remain idle or incompletely cultivated. The situation in many parts of the State is extremely disheartening, and lands which are capable of yielding large crops are actually being abandoned. The survey has made recommendations to the Constitutional Convention and expects to present a report for the use of the next General Assembly, which will doubtless be urged to favor some plan under which land-owners, local political subdivisions, and the State itself may cooperate on an equitable basis to bring about permanent reclamation.

In addition to the lines of work already mentioned, the survey has issued several reports and maps bearing on mineral resources or utilization and has carried on an active field program. Exhaustive reports were published for an area of 500 square miles known as the LaSalle and Hennepin Quadrangles in northern Illinois, and for an area of equal size lying in Henderson, Warren, Hancock, and McDonough Counties, on the west. A report on artesian water conditions in northeastern Illinois was issued in cooperation with the State Water Survey. Another publication describes the important coal resources of Saline and Gallatin Counties in southern Illinois. Oil and gas reports included one on the Staunton gas field, another on promising oil areas in Pike, Adams, and Brown Counties, and several press bulletins which recommended drilling near Waterloo in Monroe County, near Stronghurst in Henderson County, and in a selected area covering parts of Clark, Edgar, Coles, and Douglas Counties.

New field investigations leading to future reports were carried on in all parts of the State. Complete surveys were finished for an area of two hundred square miles near Dixon, for another in the vicinity of Morris, and for a third near Campbell Hill in southwestern Illinois.

Examinations relating to oil production were carried on especially in eastern Illinois, where preliminary diamond drilling was recommended by the survey, and carried out under survey direction with beneficial results. An area which promises large new production was

partly outlined. Other work of a preliminary and advisory kind was carried on in several other localities.

Coal investigations in the survey laboratory and in commercial plants had special reference to the new and increasing use of Illinois coals for gas manufacture and to the purification problems in plants of medium size. In this work the survey cooperated with the Engineering Experiment Station of the University, and the U. S. Bureau of Mines.

The search for suitable road-building material in all parts of the State was carried on during the field season and resulted in the collection of more than one hundred promising samples which are to be tested in the laboratory of the Division of Highways. Related work of a scientific nature involved the origin, extent, and character of gravels and sands of glacial origin in northern Illinois.

As may be readily understood from the preceding record, the work of the Geological Survey has resumed its pre-war scope, but has been expanded and must continue along numerous lines of great practical value to the State.

F. W. DEWOLF, *Chief.*

THE WATER SURVEY

The State Water Survey Division has continued its activities of previous years. Sanitary analyses of 1,921 samples of water, mineral analyses of 72 samples, boiler analyses of 48 samples and special analyses of 30 samples were reported during the year. Information has been furnished to municipalities concerning the quantity and quality of water available for new supplies and extensions of old supplies. Sixty-six municipalities were visited during the year to secure information and to advise with respect to water resources.

Colon-aerogenes forms of bacteria were isolated from natural waters and a study was made of those showing variations from types now accepted as indicative of fecal pollution. Five cultures of bacteria, allied with the colon-aerogenes group in all respects save that they were spore bearing, were isolated from waters and their reactions and behavior with various media under various conditions were studied.

A study of swimming pools at the University of Illinois showed that filtration, recirculation, and treatment with bleaching powder in the women's pool gave better results than filtration, exposure to ultra violet rays, and recirculation in the men's pool.

The chemical and biological surveys of surface waters was continued during the summer of 1919. The most extensive survey was that of the Sangamon River. This river above Decatur was found to be suitable for an abundance of our common game fish. The stream was grossly polluted immediately below Decatur as evidenced by the disappearance of normal fauna, high ammonia content of mud in the river bottom, and low dissolved oxygen content and high oxygen consuming power of the water.

- A list of apparatus necessary for water works control laboratories was compiled in order to help and encourage water works and city officials in the installation of such laboratories. This list is a revision of one appearing in Bulletin No. 8.

Special studies were made of odors and tastes in the waters at Danville and Mt. Vernon. At Danville treatment of water in an impounding reservoir with copper sulphate was recommended and proved beneficial. Investigation at Mt. Vernon showed that organisms causing tastes and odors were present in two of four available supplies. Discontinuance of the use of the infected supplies was recommended and improvement followed immediately.

Investigations of the operation of a water softening plant at Hillsboro were made and special studies of sedimentation and incrustations of water mains at Mt. Vernon and Tuscola were begun.

Much attention has been devoted to studies of methods of sewage treatment. The activated sludge process had been extensively studied prior to 1917. Work discontinued during the war has now been resumed and a sewage testing station, in which it is expected that tests of all new methods and comparisons of new and old methods will be carried out, is now under construction. Experiments with the Dorr-Peck modification of the activated sludge process, together with methods of sewage screening and of sludge pressing and drying will be carried out. In this work the survey has the cooperation of the Decatur, Bloomington and Normal, and North Shore Sanitary districts and of the cities of Champaign and Urbana.

Bulletin No. 16, a report for the two years ending December 31, 1919, was prepared for the press. It contains information in regard to public water supplies of the State, including a table giving the mineral content of waters and the amount of chemicals necessary to soften each supply. Reports are given of the investigations of variations from typical colon-aerogenes and allied groups of bacteria, quality of water in swimming pools and quality of water in the Sangamon River. Reports are also given of investigations of the Miles acid process of sewage treatment, factors in the purification of sewage by the activated sludge process, the fertilizer value of activated sludge, the influence and removal of silicic acid in water purification, the effect of chloramine on crenothrix, suggested departures from standards given in the 1917 edition of Standard Methods of Water Analysis, and methods of preservation of mud samples. The method of preparation of ammonia free water in use at the laboratory, a description of a sampler used for the collection of dissolved oxygen samples and a list of materials needed in a water works laboratory are also given.

EDWARD BARTOW, *Chief.*

STATE MUSEUM

The personnel of the membership of the Board of State Museum Advisors remained unchanged during the year. The board held one meeting; namely, on April 29, 1920, at Chicago. Owing to the absence and illness of members, it was impossible to arrange for other meetings. Members of the board, however, were kept in close touch with the activities of the Museum. Dr. Crook, the Chief of the Museum, makes the following report:

During the year ending June 30, 1920, while but \$2,944 was spent for equipment and repairs, an inventory of Museum property on September 1 shows an increase of \$17,708 in value. This gratifying increase is due chiefly to gifts. The present value of the personal property of the Museum, without making allowance for the depreciation of the dollar, is \$153,137.83. The gift of a unique archaeological collection, the most extensive collection of its kind in the country, and which is worth upwards of \$100,000.00, has been promised the Museum upon completion of the Centennial Building in which the Museum is to be housed. Partial promises of a number of other valuable collections have been made and when adequate quarters have been provided, the Museum may become one of the best state museums in the country, largely because of the enthusiasm and generosity of its friends.

The mineral collections of the Museum have recently been increased and at present comprise about 50 per cent of the commonly known minerals, most of which are used in some form by the people of the State in the fine arts, manufacturing arts, or agriculture. While Illinois is usually not thought of as a mineral producing state, it does in fact stand third in the production and utilization of mineral resources—a sure indication of its high state of development and of favorable living conditions. The farther man is removed from the plane of other members of the animal kingdom, the greater use does he make of fuels, of building materials and of ornamental minerals.

At the request of the Director of the Department of Mines and Minerals, the Chief of the Museum took charge of the assembling and display of minerals which should represent Illinois' mineral resources at the International Mining Congress held in St. Louis November, 1919. Thanks to the cooperation, the work, and the generosity of a number of men and institutions, a good collection of minerals was assembled in a short time and attractively displayed. Washington University, the St. Louis City Art Museum, and the Missouri Historical Society generously furnished handsome cases for the exhibits, an unusual courtesy. Many

mining and quarrying companies sent good samples of their products, photographs of their mines and mills, etc. The exhibit received much favorable comment and was pronounced by the Director of the Mining Congress to be the most attractive display made by any state. At the close of the congress these materials were brought to the Museum and are now displayed in the gallery. While coal is the mineral substance of major importance in our State, petroleum, limestone, sands and clays are indispensable to our economy and deservedly hold an important place. They are well represented in the collection. The mineral fluorite, which is somewhat unique in Illinois because of its beauty, utility and quantity, is well shown by handsome crystals, massive pieces, gravel, spar and powdered specimens. The bulk of these were sent by the Rosiclare and Fairview Mining Companies, together with photographs of underground workings, mills, storage buildings, homes of workers and officials. The appended list gives the names of the donors.

A "Guide to the Mineral Collections in the Illinois State Museum," a book of about 300 pages has just been completed.

A two seated Curtiss observation airship, J N 4 D, used at the Indianapolis aviation field, and secured from the United States War Department through the kind offices of Congressman L. E. Wheeler, has been placed on exhibition. It is equipped with an eight cylinder Curtiss engine. It has been in the air 141 hours and some of its structural materials have probably reached a state of fatigue so that it is near the point of questionable safety. It is valued at about \$6,000.00.

Another gift of importance is that of six handsome elks obtained from Wyoming by Mr. F. H. Connor of Chicago who sent a party of hunters to Wyoming last November to secure them for the Museum. The State of Wyoming gave permission for their removal to the Illinois State Museum. They are being mounted by Mr. Julius Friesser, chief taxidermist of the Field Museum and it is planned to exhibit them in a case 28 feet long, 16 feet deep, and 18 feet high.

Minor advances have been made in conchology, entomology, ichthyology, herpetology and ornithology. The ornithological collections now contain most of the species of Illinois birds and there are six handsome groups with transparent backgrounds, and one group of wild turkeys.

Two cases have recently been placed in the entrance hall containing casts showing the development of the horse in North America as worked out by Professor Osborn of the American Museum and others, and of the human race, from the time of the Pithecanthropus to the Cromagnon man as represented by skulls found in many places by various anthropologists, and by busts prepared by Professor J. H. McGregor.

The most pretentious group thus far undertaken is one containing about two hundred different kinds of mushrooms which grow in the vicinity of Springfield. It occupies a circular case sixty feet in circumference and extending to the ceiling. The observer entering the

door comes into a hexagonal room twelve feet in diameter. Before and around him is a panorama showing an Illinois scene. The background is an unusually beautiful oil painting of an idealized Illinois landscape. The foreground from eight to six feet deep is made with soil, trees, bushes and grasses. An actual stream of running water adds greatly to the naturalness of the scene. On the left is a wood, on the right brush, in front is a field with a river in the distance. In the foreground are placed in proper ecological setting twelve hundred individual mushrooms which illustrate about two hundred Illinois species of mushrooms that are noteworthy because of their beauty, scientific importance or food value. They are made in wax and plaster by Henri Marchand and so skillfully wrought that it is almost impossible to distinguish the artificial from the real. Those which are edible are marked with a black disk; those which are unpleasant, a red disk; and those which are deadly have at their base a little skull made in wax. Each disk contains a number which refers to the directory placed at the left of the case. A label at the right gives the main facts about the group.

The Dean of the Art School of Washington University, Professor E. H. Wuerpel, and other artists gave counsel from the artist's viewpoint during the construction of the group. The mycologist of the University of Illinois, Professor W. B. McDougall, checked each species for scientific accuracy. Thus the group represents not only the skill of an unusually creative artist—Marchand—but also the combined knowledge of several experts. Its construction was made possible by the generosity of Mr. J. W. Bunn and represents a value of about \$10,000. It teaches a useful lesson in an attractive manner. Many who know nothing about mushrooms get their first knowledge here. The enthusiasm with which it is viewed by multitudes of visitors is gratifying alike to the artist, the Museum authorities, the interested public and would have been to the generous donor, who passed away without having seen the result of his gift.

There has been a steady increase in the number of visitors at the Museum. Twenty-one schools from neighboring cities within a radius of 100 miles have sent classes. During the annual State Fair the crowds are so great at times that it is difficult to care for them properly. During one day about six thousand visitors were present. The enthusiasm of the visitors is encouraging to the Museum authorities and would be enlightening to any one doubtful about the place which a good museum might fill in the intellectual life of our people. Docents were employed for a few days, much to the advantage of the visitors. The plan adopted in this kind of service is an avoidance of stereotyped forms and memoriter stories and the use of interesting statements, suggestive hints, conversations about the objects shown. Commendatory reports from people in various walks of life, from lettered and illiterate, leave the impression that such service is quite necessary and greatly appreciated by visitors.

During the year the Chief delivered a number of addresses on scientific and museum subjects before scientific societies, public school classes, men's and women's clubs.

One of the chief accessions to the Museum is a large collection of minerals and shells given by Mr. E. W. Payne in 1919. It has not yet been possible to classify and record them, since the Museum was deprived of its workrooms and is also short of clerical help.

The gifts made to the Museum since the last published list are as follows:

GIFTS RECEIVED SINCE LAST PUBLISHED REPORT.

MINERALS

4727.	Milford Granite, Lincoln Monument.....	Construction Co.
4728.	Wavellite (10 spec.).....	W. A. Lower.
4729.	Beryl, Whalen Canon, Wyoming.....	C. H. Robinson.
4730.	Garnet (Zircon) Canon, Wyoming.....	Do.
4731.	Hematite, Sunrise, Wyoming.....	Do.
4732.	Mica, Whalen Canon, Wyoming.....	Do.
4733.	Diopside, Whalen Canon, Wyoming.....	Do.
4734.	Malachite & Chrysocolla, Wyoming.....	Do.
4735.	Biotite, Whalen Canon, Wyoming.....	Do.
4736.	Mica Schist, Whalen Canon, Wyoming.....	Do.
4737.	Argentite, Colorado.....	James F. Rickard.
4738.	Chalcopyrite, Colorado.....	Do.
4739.	Proustite, Colorado.....	Do.
4740.	Hematite, Colorado.....	Do.
4741.	Pyrite (Gold Bearing), Colorado.....	Do.
4742.	Galena, argentiferous, Colorado.....	Do.
4743.	Marcasite, Colorado.....	Do.
4744.	Gold Ore. Free gold in sight, Colorado.....	Do.
4745.	Marcasite, auriferous, Colorado.....	Do.
4746.	Silver Ore, Denver, Colorado.....	Do.
4747.	Galena, Colorado.....	Do.
4748.	Azurite and Malachite, California.....	F. W. Reiner.
4749.	Turquoise, California.....	Do.
4750.	Wolframite, Tungsten, Colorado.....	Walter, Bartlett and Francis Bain.
4751.	Sulphur, Sicily.....	John G. Thompson.
4752.	Fluorspar, Golconda, Ill.....	Pierce Fluorspar Co.
4753.	Fluorspar, Golconda, Ill.....	Do.
4754.	Fluorspar, Golconda, Ill.....	Do.
4755.	Fluorspar, Golconda, Ill.....	Do.
4756.	.....	Do.
4757.	.....	Do.
4758.	.....	Do.
4759.	.....	Rosiclare Fluor. Lead Co.
4760.	.....	Do.
4761.	.....	J. M. Blayney, Pres. Fairview Mine.
4762.	.....	Do.
4763.	.....	Do.
4764.	.....	Do.
4765.	.....	Do.
4766.	.....	Do.
4767.	.....	Do.
4768.	.....	Do.
4769.	.....	Do.
4770.	.....	Do.
4771.	.....	Do.
4772.	.....	Do.
4773.	.....	I. A. Stewart.
4774.	.....	J. M. Blayney, Pres., Fairview Mine.
4775.	.....	Do.
4776.	.....	Do.
4777.	.....	Do.
4778.	Fluorspar—Banded, Fairview, Ill.....	Do.
4779.	Fluorite, Pure, Fairview, Ill.....	Do.
4780.	Fluorite, Fairview, Ill.....	Do.
4781.	Fluorite, Fairview, Ill.....	Do.
4782.	Fluorite, Rosiclare, Ill.....	Rosiclare Fluor. Lead Co.
4783.	Fluorite, Rosiclare, Ill.....	Do.
4784.	Fluorite, Fairview, Ill.....	J. M. Blayney, Pres., Fairview Mine.

4785.	Fluorite, Fairview, Ill.....	L. A. Stewart. Fairview Mine.
4786.	Fluorite, Fairview, Ill.....	Do.
4787.	Fluorite, Fairview, Ill.....	Do.
4788.	Fluorite, Fairview, Ill.....	Do.
4789.	Fluorite, Fairview, Ill.....	Do.
4790.	Fluorite, Fairview, Ill.....	Do.
4791.	Fluorite, Fairview, Ill.....	Do.
4792.	Fluorite, Purple. Fairview, Ill.....	Do.
4793.	Fluorite, Purple. Fairview, Ill.....	Do.
4794.	Fluorite, Fairview, Ill.....	Do.
4795.	Fluorite, Fairview, Ill.....	Do.
4796.	Fluorite, Fairview, Ill.....	Do.
4797.	Fluorite, Fairview, Ill.....	Do.
4798.	Fluorspar, Fairview, Ill.....	Fairview Fluorspar Lead Co.
4799.	Fluorspar, Rosiclare, Ill.....	Rosiclare Fluorspar Lead Co.
4800.	Fluorspar, Fairview, Ill.....	Mr. Edward Wall.
4801.	Limestone for Macadam, Chicago, Ill.....	Dolese & Shepard Co., Chicago.
4802.	Limestone for Macadam, Chicago, Ill.....	Do.
4803.	Limestone for Macadam, Chicago, Ill.....	Do.
4804.	Limestone for Concrete, Chicago, Ill.....	Do.
4805.	Limestone for Concrete, Chicago, Ill.....	Do.
4806.	Limestone for Screenings, Chicago, Ill.....	Do.
4807.	Fluorite, Rosiclare, Ill.....	Rosiclare Fluorspar Lead Co.
4808.	Fluorite Gravel, Rosiclare, Ill.....	Do.
4809.	Galena, Fairview, Ill.....	Fairview Fluorspar Lead Co.
4810.	Sphalerite, Fairview, Ill.....	Do.
4811.	Fluorite, Fairview, Ill.....	Do.
4812.	Fluorite, Golconda, Ill.....	Pierce Fluorspar Co.
4813.	Torpedo Sand, Chicago, Ill.....	Chicago Gravel Co.
4814.	Torpedo Sand, Chicago, Ill.....	Do.
4815.	Silica, 50 Mesh.....	U. S. Silica Co., Chicago.
4816.	Silica, crystal.....	Do.
4817.	Shot	Do.
4818.	Flint	Do.
4819.	Fluorite, screenings, Golconda, Ill.....	Pierce Fluorspar Co.
4820.	Gravel, 1 inch washed and crushed.....	Chicago Gravel Co.
4821.	Gravel, 2 inch washed and crushed.....	Do.
4822.	Gravel Roofing.....	Do.
4823.	Lead concentrate, JoDavless Co., Ill.....	Mineral Point Zinc Co.
4824.	Zinc concentrate, JoDavless Co., Ill.....	Do.
4825.	Lead concentrate, Platteville, Wis.....	Vinegar Hill Zinc Co.
4826.	Zinc concentrate, Platteville, Wis.....	Do.
4827.	Galena, Platteville, Wis.....	Do.
4828.	Sphalerite, Platteville, Wis.....	Do.
4829.	Gravel, Coarse, Lincoln, Ill.....	McGrath Sand & Gravel Co.
4830.	Gravel, Fine, Lincoln, Ill.....	Do.
4831.	Sand, Lincoln, Ill.....	Do.
4832.	Sand-Steel Moulding, Ottawa, Ill.....	Higby Canon Sand Co.
4833.	Silica—Sand, Ottawa, Ill.....	Do.
4834.	Sand—Furnace and Core, Ottawa, Ill.....	Do.
4835.	Fluorite, Fairview, Ill.....	J. N. Blayney, Pres., Fairview Mine.
4836.	Shale, Ground, Streator, Ill.....	Streator Brick Co.
4837.	Shale, Ground, Streator, Ill.....	Do.
4838.	Shale Rock, Streator, Ill.....	Do.
4839.	Fire Clay, Crude, Deer Park, Ill.....	Illinois Clay Products Co.
4840.	Clay, Deer Park, Ill.....	Do.
4841.	Stone. Crushed, Marion.....	Charles Stone Co. Quarry, Whitehall, Ill.
4842.	Fire Clay, Ground, Galesburg, Ill.....	Barrington Paving Brick Co.
4843.	Fire Clay, Galesburg, Ill.....	Do.
4844.	Fire Clay, Galesburg, Ill.....	Do.
4845.	Limestone, Thornton, Ill.....	Brownell Improvement Co.
4846.	Limestone, Thornton, Ill.....	Do.
4847.	Limestone, Thornton, Ill.....	Do.
4848.	Limestone, Thornton, Ill.....	Do.
4849.	Limestone, Crushed, Columbia, Ill.....	Columbia Stone Co.
4850.	Limestone. Crushed, Columbia, Ill.....	Do.
4851.	Limestone, Crushed, Columbia, Ill.....	Do.
4852.	Limestone, Crushed, Columbia, Ill.....	Do.
4853.	Limestone, Crushed, Columbia, Ill.....	Do.
4854.	Ganister, Crude, Cairo, Ill.....	International Silica Co.
4855.	Ganister, Crude, Cairo, Ill.....	Do.
4855.	Ganister, Crude, Cairo, Ill.....	Do.
4857.	Silica, No. 1. Cairo, Ill.....	Do.
4858.	Clay, Cairo, Ill.....	The Barr Clay Co.
4859.	Fire Clay, Plastic, Crude, Ottawa, Ill.....	Chicago Retort & Fire Brick Co.
4860.	Limestone, Agricultural, Chicago, Ill.....	A. G. O'Laughlin Co.
4861.	Limestone, Agricultural, Chicago, Ill.....	Do.
4862.	Limestone, Alton, Ill.....	Reliance Whiting Co.
4863.	Limestone, Alton, Ill.....	Do.
4864.	Quick Lime, Alton, Ill.....	Do.
4865.	Quick Lime, Alton, Ill.....	Do.

4866.	Sphalerite, JoDavless Co., Ill.....	Mineral Point Zinc Co
4867.	Limestone No. 5, Dixon, Ill.....	Sandusky Cement Co.
4868.	Limestone, Dixon, Ill.....	Do.
4869.	Limestone, Dixon, Ill.....	Do.
4870.	Limestone, Dixon, Ill.....	Do.
4871.	Sand, Special Fine Cave, Ottawa, Ill.....	Higby Canon Sand Co.
4872.	Limestone, East St. Louis, Ill.....	Casper Stolle Co.
4873.	Limestone, East St. Louis, Ill.....	Do.
4874.	Limestone, East St. Louis, Ill.....	Do.
4875.	Limestone, East St. Louis, Ill.....	Do.
4876.	Limestone, Chicago, Ill.....	Marblehead Lime Co.
4877.	Limestone, Chicago, Ill.....	Do.
4878.	Limestone, Chicago, Ill.....	Do.
4879.	Limestone, Chicago, Ill.....	Do.
4880.	Quick Lime, Chicago, Ill.....	Do.
4881.	Quick Lime, Chicago, Ill.....	Do.
4882.	Limestone, LaSalle, Ill.....	LaSalle Cement Co.
4883.	Limestone, LaSalle, Ill.....	Do.
4884.	Limestone Chips, Concrete and Road Work, LaSalle, Ill.....	Do.
4885.	Limestone for Agri., Marion, Ill.....	Charles Stone Co.
4886.	Limestone, Crushed, Marion, Ill.....	Do.
4887.	Limestone, Crushed, Marion, Ill.....	Do.
4888.	Limestone, Crushed, Marion, Ill.....	Do.
4889.	Limestone, Crushed, Marion, Ill.....	Do.
4890.	Limestone, Alton, Ill.....	Reliance Whiting Co.
4891.	Limestone, Elmhurst, Ill.....	Elmhurst, Chicago Stone Co.
4892.	Concrete, Elmhurst, Ill.....	Do.
4893.	Chips, Elmhurst, Ill.....	Do.
4894.	Screenings, Elmhurst, Ill.....	Do.
4895.	Limestone for Agri., Elmhurst, Ill.....	Do.
4896.	Macadam	So. Ill. Penitentiary.
4897.	Chips	Do.
4898.	Screenings	Do.
4899.	Limestone for Agri.....	Do.
4900.	Building Stone.....	Do.
4901.	Building Stone.....	Do.
4902.	Quarry Shale, Galesburg, Ill.....	Purrington Paving Brick Co.
4903.	Shale, Ground, Galesburg, Ill.....	Do.
4904.	Shale for Brick, Galesburg, Ill.....	Do.
4905.	Limestone, Oglesby, Ill.....	Lehigh Portland Cement Co.
4906.	Cement, Oglesby, Ill.....	Do.
4907.	Kiln Feed, Oglesby, Ill.....	Do.
4908.	Shale, Oglesby, Ill.....	Do.
4909.	Clinker, Oglesby, Ill.....	Do.
4910.	Quartz, Garland Co., Arkansas.....	W. A. Lower, Springfield.
4911.	Quartz, Montgomery Co., Arkansas.....	Do.
4912.	Chalcedony, Colorado Springs, Colo.....	Do.
4913.	Banded Clay, Garland Co., Arkansas.....	Do.
4914.	Quartzite Pebble.....	Dr. H. B. Hemenway.
4915.	Concretion, Peerless Mine, Springfield.....	William E. Dawson.
4916.	Concretion, Peerless Mine, Springfield.....	Do.
4917.	Concretion, Peerless Mine, Springfield.....	Do.
4918.	Shale, "Horseback," Peerless Mine, Springfield.....	Do.
4919.	Fluorite, Fairview, Ill.....	L. A. Stewart, Fairview Mine.
4920.	Fluorite and Calcite, Fairview, Ill.....	Do.
4921.	Fluorite Slickensides, Fairview, Ill.....	Do.
4924.	Silicified Wood. Tree Stump turned to Stone.....	U. S. National Museum.
4925.	Copper, Lake Superior.....	Mrs. C. J. Barber.
4926.	Quartz	Do.
4927.	Quartz	Do.
4928.	Quartz	Do.
4929.	Quartz	Do.
4930.	Quartz	Do.
4931.	Quartz	Do.
4932.	Pyrite	Do.
4933.	Agate	Do.
4934.	Asbestos	Do.
4935.	Gypsum	Do.
4936.	Aragonite—Stalactite	Do.
4937.	Hematite	Do.
4938.	Obsidian	Do.
4939.	Diorite, Glaciated Boulder, Petersburg, Ill.....	A. R. Crook, Chief.
4940.	Loess, "Yellow Silt Loam," Tallula, Ill.....	Do.
4941.	Chert, Petersburg, Ill.....	Do.
4942.	Pyrolusite, Garland Co., Arkansas.....	W. A. Lower.

FOSSILS

13571.	Concretion used to line well on Ann Rutledge's property where Abraham Lincoln was a frequent guest, Petersburg, Ill.....	T. E. Lyon.
13572.	Unio and Ostracods, Springfield Co-operative Coal Co.....	C. W. Werner.

13573.	Crinoid Stem and one Tentacle.....	B. F. Woodrum.
13574.	Fossil Coral.....	Mrs. C. J. Barber.
13575.	Fossil Leaves.....	Do.
13576.	Fossil Coral.....	Do.
13577.	Trilobite	Do.
13578.	Fossil Coral.....	Do.
13579.	Fossil Coral.....	Do.
13580.	Productus	Do.
13581.	Fossil Coral.....	Do.
13582.	Fossils—Miscellaneous	Do.
13584.	Clypeaster—Sea Biscuit. France.....	L. S. Vickery.

ARTHROPODA

1. The Long Sting—A parasite of Termax.....A friend.
2. Trap-door Spider, Burrow Spiders and Young, California.....
.....Mrs. Will S. Moffatt, Wheaton, Ill.

BIRDS

988.	American Goshawk.....	Anna T. Mitchell.
991.	Snowy Owl.....	Henry Walker.
992.	Red-tailed Hawk.....	G. S. Beckman.
993.	Bald Eagle.....	State Board of Agriculture.
996.	Robin—Nest	Dr. and Mrs. C. M. Bowcock.
997.	Cardinal	Do.
1000.	Bronzed Grackle.....	Do.
1001.	White-Throated Sparrow.....	Pupils Sacred Heart Acad.
1002.	Rose-Breasted Grosbeak.....	Dr. J. R. Leib.
1003.	Green Heron.....	H. C. McReynolds.

MAMMALS

989. Wild Cat, Arkansas.....State Board of Agriculture.

A MYCOLOGICAL GROUP CONSISTING OF 1,200 MUSHROOMS MADE IN WAX DISPLAYED IN
NATURAL SURROUNDINGS AND BACKED WITH OIL PAINTING 48 FEET IN LENGTH

211.	Pale Yellow Clavaria.....	The J. W. Bunn Collection.
212.	The Yellowish Tremella.....	Do.
213.	The Whitish Tremella.....	Do.
214.	Indian Club Clavaria.....	Do.
215.	Indian Club Clavaria.....	Do.
216.	Indian Club Clavaria.....	Do.
217.	White-tufted Clavaria.....	Do.
218.	The Crested Clavaria.....	Do.
219.	The Beautiful Clavaria.....	Do.
220.	Red Tipped Clavaria.....	Do.
221.	Spiny Clavaria.....	Do.
222.	Amethyst Clavaria.....	Do.
223.	Spindle-shaped Clavaria.....	Do.
224.	Jew's Ear Herneola.....	Do.
225.	Fairy Ring Mushroom.....	Do.
226.	Bent Peziza.....	Do.
227.	Gemmed Puff Ball.....	Do.
228.	Pallid Boletus.....	Do.
229.	Cyaneus Boletus.....	Do.
230.	Woolly Lactarius.....	Do.
231.	Cone-like Boletus.....	Do.
232.	Bitter Boletus.....	Do.
233.	Purple Hypomyces.....	Do.
234.	Lurid Boletus.....	Do.
235.	Lepiota Morgani.....	Do.
236.	Club Footed Boletus.....	Do.
237.	Woolly Cantharellus.....	Do.
238.	Frost Yellow Russula.....	Do.
239.	Frost Boletus.....	Do.
240.	American Boletus.....	Do.
241.	Feted Russula.....	Do.
242.	Orange-Brown Lactarius.....	Do.
243.	Long Root Polyporus.....	Do.
244.	Crested Lepiota.....	Do.
245.	Brain-shaped Calvatia.....	Do.
246.	Slippery Leotia.....	Do.
247.	Blackish Boletus.....	Do.
248.	Chestnut Boletus.....	Do.
249.	Separating Boletus.....	Do.
250.	Lilac Puff Ball.....	Do.
251.	Edible Gyromitra.....	Do.
252.	Yellow-colored Russula.....	Do.
253.	White Hypomyces.. ..	Do.

254.	Tinder Russula.....	The J. W. Bunn Collection.
255.	Large Tricholoma.....	Do.
256.	Yellow Craterellus.....	Do.
257.	Red Russula.....	Do.
258.	Brown Gyromitra.....	Do.
259.	Blue and Yellow Russula.....	Do.
260.	White Helvella.....	Do.
261.	Two-colored Boletus.....	Do.
262.	Inky Coprinus.....	Do.
263.	Carved Puff Ball.....	Do.
264.	Rosy-stemmed Russula.....	Do.
265.	American Lepiota.....	Do.
266.	Edible Cantharellus.....	Do.
267.	Curly Sparassia.....	Do.
268.	Cinereous Helvella.....	Do.
269.	Horn of Plenty Craterellus.....	Do.
270.	Rooting Collybia.....	Do.
271.	Clustered Psathyrella.....	Do.
272.	Large Brown Peziza.....	Do.
273.	Purple Russula.....	Do.
274.	Sooty Lactarius.....	Do.
275.	Rough-stemmed Boletus.....	Do.
276.	Red Hypomyces.....	Do.
277.	Blackish Russula.....	Do.
278.	Parasol Mushroom.....	Do.
279.	Indigo Lactarius.....	Do.
280.	Shaggy Mane Coprinus.....	Do.
281.	Stemmed Calvatia.....	Do.
282.	Common Schleroderma.....	Do.
283.	Giant Puff Ball.....	Do.
284.	Perplexing Hypholema.....	Do.
285.	Sullivan Boletus.....	Do.
286.	Sulphur-colored Polyporus.....	Do.
287.	Abortive form Clitopilus.....	Do.
288.	Tin-colored Mycena.....	Do.
289.	Glistening Coprinus.....	Do.
290.	Deceitful Clitocybe.....	Do.
291.	Beautiful-stemmed Boletus.....	Do.
292.	Honey-colored Armillaria.....	Do.
293.	Lilac Puff Ball.....	Do.
294.	Pear-shaped Puff Ball.....	Do.
295.	Meadow Mushroom.....	Do.
296.	Small Peak-capped Mycena.....	Do.
297.	Fawn-colored Pluteus.....	Do.
298.	Egg Yolk Mitrula.....	Do.
299.	Umbonate Volvaria.....	Do.
300.	Orange Ground Peziza.....	Do.
301.	Slender Galera.....	Do.
302.	White Hydnum.....	Do.
303.	Spreading Hydnum.....	Do.
304.	Many-headed Clitocybe.....	Do.
305.	Yellow Cortinarius.....	Do.
306.	Uncertain Hypholoma.....	Do.
307.	Chestnut-colored Cortinarius.....	Do.
308.	Violet-colored Inocybe.....	Do.
309.	Pallid Cortinarius.....	Do.
310.	Fall Cortinarius.....	Do.
311.	Club Clitocybe.....	Do.
312.	Foetid Marasmius.....	Do.
313.	Branched Sparassia.....	Do.
314.	Snow White Hygrophorus.....	Do.
315.	Cartilaginous Tricholoma.....	Do.
316.	Conical Hygrophorus.....	Do.
317.	Knightly Tricholoma.....	Do.
318.	White Tricholoma.....	Do.
319.	Ivory-capped Hygrophorus.....	Do.
320.	Bell Omphalia.....	Do.
321.	Longyear Galera.....	Do.
322.	Fake Cantharellus.....	Do.
323.	Gray Tricholoma.....	Do.
324.	Salmon Entoloma.....	Do.
325.	Solitary Amanita.....	Do.
326.	Reddish Amanita.....	Do.
327.	Orange Amanita.....	Do.
328.	Fly Amanita.....	Do.
329.	Versutus Crepidotus.....	Do.
330.	Medusae's Head Hydnum.....	Do.
331.	Coral-like Hydnum.....	Do.
332.	Rolled Inward Paxillus.....	Do.
333.	Yellowish Pleurotus.....	Do.

334.	Hard Pholiota.....	The J. W. Bunn Collection.
335.	Elm Pleurotus.....	Do.
336.	Oyster Mushrooms.....	Do.
337.	Plum Clitopilus.....	Do.
338.	Abortive Clitopilus.....	Do.
339.	Scaly Pholiota.....	Do.
340.	Sea Loving Agaricus.....	Do.
341.	Sylvan Agaricus.....	Do.
342.	Delicious Lactarius.....	Do.
343.	Shell Panus.....	Do.
344.	Twisted Panus.....	Do.
345.	Large Cordyceps.....	Do.
346.	Cordyceps	Do.
347.	Yellow Hypomyces.....	Do.
348.	Yellow Spathularia.....	Do.
349.	Rodman's Mushroom.....	Do.
350.	Clay Purple Clitocybe.....	Do.
351.	Lactarius	Do.
352.	Lactarius	Do.
353.	Masked Tricholoma.....	Do.
354.	Fat or Pineapple Pholiota.....	Do.
355.	Semigrobose Stropharia.....	Do.
356.	Hard Stropharia.....	Do.
357.	Geoglossum	Do.
358.	Delicious Morell.....	Do.
359.	Conical Morell.....	Do.
360.	Hybrid Morell.....	Do.
361.	Common Morell.....	Do.
362.	Tigris Lentinus.....	Do.
363.	Field or Horse Mushroom.....	Do.
364.	Sheathed Amanitopsis.....	Do.
365.	Sheathed Amanitopsis.....	Do.
366.	Smooth Lepiota.....	Do.
367.	Tomentum Paxillus.....	Do.
368.	Tufted Collybia.....	Do.
369.	Honey-colored Smooth Cap.....	Do.
370.	Schleroderma	Do.
371.	Black-footed Polyporus.....	Do.
372.	Rose Gray Entoloma.....	Do.
373.	Liver Fungus.....	Do.
374.	Pale Fistulina.....	Do.
375.	Gelatinous Tremellodon.....	Do.
376.	Frost's Amanita.....	Do.
377.	Spring Amanita.....	Do.
378.	Deadly Amanita.....	Do.
379.	Fir-cone Amanita.....	Do.
380.	Booted Amanita.....	Do.
381.	Deadly Amanita.....	Do.
382.	Silky Volvaria.....	Do.
383.	Scaly Polyporus.....	Do.
384.	Poisonous Amanita.....	Do.
385.	Hated Amanita.....	Do.
386.	Delicate Amanita.....	Do.
387.	Flat-cap Mushroom.....	Do.
388.	Geaster	Do.
389.	Daedalea	Do.
390.	Polyporus	Do.
391.	Daedalea	Do.
392.	Common Zoned Polystictus.....	Do.
393.	Common Schizophyllum.....	Do.
394.	Daedalia	Do.
395.	Fomes	Do.
396.	Daedalia	Do.
397.	Polyporus	Do.
398.	Cinnabar Polyporus.....	Do.
399.	Daedalia	Do.
400.	Daedalia	Do.
401.	Birch Polyporus.....	Do.
402.	Honey-colored Armillaria.....	Do.
403.	Claudopus Nidus.....	Do.
404.	1 Boletus and Cross Section.....	Do.
405.	1 Russula and 1 Lactarius.....	Do.
406.	1 Cantharellus floccosus and Cross Section.....	Do.
407.	1 Fistulina hepatica and Cross Section.....	Do.
408.	Lepiota naucina.....	Do.
409.	Amanita phalloides.....	Do.
410.	Amanita muscaria.....	Do.
411.	Amanita phalloides, 1 cast human hand.....	Do.
412.	Amanita phalloides, 2 casts human hands.....	Do.
413.	Amanita Caesaria.....	Do.

414.	Amanita phalloides Cross Section.....	The J. W. Bunn Collection.
415.	Amanita phalloides, Cross Section. Egg stage.....	Do.
416.	Progressive growth of an Agaric.....	Do.
417.	Spore bearing surfaces, two models.....	Do.
418.	Amanita phalloides, Egg stage.....	Do.
419.	Pholiota heteroclita. How to make a spore print.....	Do.
420.	Spores—Print	Do.
421.	Pileus and Gill shapes.....	Do.
422.	Common Schleroderma.....	Do.
423.	Perplexing Polyporus.....	Do.
424.	Daedalia	Do.
425.	Fomes	Do.

CORN

426.	Ear of Corn—7 ears in one. Grown on 1 stalk, in 1 husk, Oglesby Farm, Elkhart, Ill.....	Lieut. Gov. J. G. Oglesby.
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MANUFACTURING ARTS

WAR RELICS

49.	German Helmet, France.....	Capt. Paul Hansen.
50.	German Breastplate, France.....	Do.
51.	German Helmet.....	Kent Hagler Collection
52.	Dress Helmet.....	Do.
53.	Infantry "Pickle Haub" Helmet.....	Do.
54.	Artillery Helmet.....	Do.
55.	Artillery Helmet.....	Do.
56.	Infantry Helmet.....	Do.
57.	Ornament for Helmet.....	Do.
58.	Plume from Uhlan's Hat.....	Do.
59.	Shoulder Straps.....	Do.
60.	Shoulder Straps.....	Do.
61.	Shoulder Straps.....	Do.
62.	Prayer Book.....	Do.
63.	Cap—Field Gray—Infantry.....	Do.
64.	Cap—Field Gray.....	Do.
65.	Cap—Field Gray—Chasseur's.....	Do.
66.	Cap—Field Gray—Chasseur's.....	Do.
67.	Cap—Field Gray—Artillery.....	Do.
68.	Cap—Field Gray—Artillery.....	Do.
69.	Cap—Field Gray—Infantry.....	Do.
70.	Cap—Field Gray—Infantry.....	Do.
71.	Tassel—Bridge Builder's Cap.....	Do.
72.	Cap—Infantry Officer's.....	Do.
73.	Cap—Artillery	Do.
74.	Cap—Cavalry	Do.
75.	Cap—Peace time hat—Dragoon's.....	Do.
76.	Cap—Infantry—Peace time hat.....	Do.
77.	Tassels—from Sabers, Artillery.....	Do.
78.	Spur—Officer's	Do.
79.	Match Box and Holder.....	Do.
80.	German Wounded Badge.....	Do.
81.	Buttons from German Prisoners.....	Do.
82.	Buttons—Austrian or Bavarian.....	Do.
83.	Cartridge Box and Belt and Dress Buckle.....	Do.
84.	Buckle	Do.
85.	Shell Buckle.....	Do.
86.	Cup	Do.
87.	Mess Kit.....	Do.
88.	Canteen	Do.
89.	Gas Mask.....	Do.
90.	German Identity Disk.....	Do.
91.	Skull, Humerus and Tibia.....	Do.
92.	Cartridge, Rifle Bullet.....	Do.
93.	Revolver Bullet.....	Do.
94.	Machine Gun Band Box.....	Do.
95.	Bayonet	Do.
96.	Hand Grenade.....	Do.
97.	German Trench Listener.....	Do.
98.	Anti-taub Solid Shell.....	Do.
99.	Most Common German Shell.....	Do.
100.	Base of Austrian Shell.....	Do.
101.	Nose of Shell.....	Do.
102.	High Explosive Shell Fragment.....	Do.
103.	Shrapnel Bullet.....	Do.
104.	Powder—used in all American Guns.....	Do.
105.	French Helmet—universally used.....	Do.
106.	Insignia for Helmet or "Casque".....	Do.

107.	Insignia for French Helmet.....	Kent Hagler Collection.
108.	Insignia for French Helmet—Artillery.....	Do.
109.	Insignia for French Engineer's Helmet.....	Do.
110.	Insignia for French Helmet—Chasseur.....	Do.
111.	Insignia for French Helmet—Colonial Troops.....	Do.
112.	Insignia for Helmet—Indo China.....	Do.
113.	French Hand Grenade.....	Do.
114.	French Hand Grenade.....	Do.
115.	French Hand Grenade.....	Do.
116.	French Hand Grenade.....	Do.
117.	Hand Grenade.....	Do.
118.	Incendiary Hand Grenade.....	Do.
119.	High Explosive Rifle Grenade.....	Do.
120.	Hand Grenade—Fragments.....	Do.
121.	Torpee—Grenade	Do.
122.	Parachute to Star Shell.....	Do.
123.	French Infantry Bayonet—Regulation.....	Do.
124.	French Service Cartridge.....	Do.
125.	French Identity Disk.....	Do.
126.	French Gas Mask, 1916-1917 Type.....	Do.
127.	French Gas Mask, 1918.....	Do.
128.	French Cup.....	Do.
129.	French Canteen.....	Do.
130.	Arm Band—Red Cross.....	Do.
131.	Cartridge Box and Harness.....	Do.
132.	Hat—Foreign Legion.....	Do.
133.	Hat—Madagascar Troops.....	Do.
134.	Hat—French "Calots"—Artillery.....	Do.
135.	Hat—Infantry. Extra Quality.....	Do.
136.	Hat—Chasseur au Peld.....	Do.
137.	Service Revolver.....	Do.
138.	American Gas Mask—Latest Type.....	Do.
139.	Hat	Do.
140.	German Poster.....	Do.
141.	German Poster.....	Do.
142.	Ball of Cow's Hair, matted by wave action near Little Traverse Bay (Felt Factory) Michigan.....	A. W. Slocum

BOOKS RECEIVED 1917 TO 1920 AS GIFTS

Trumpet Call for the year 1916, Hugh Cork, ed.
 Library of Congress, Report of the Librarian for 1916.
 U. S. Coast and Geodetic Survey, Annual Report, 1916.
 U. S. Civil Service Commission, Thirty-third Annual Report.
 Illinois State Geological Survey Bulletin, No. 27.
 Illinois State Geological Survey Bulletin, No. 33.
 U. S. Bureau of Ethnology, 31st Annual Report.
 Cosmos. Basis of Durable Peace, Chas. Scribner, 1917.
 What a Geologist Can Do In War, Penrose.
 Ohio Geological Survey Bulletin 20, Fourth Series.
 Contributions from the Zoological Laboratory, H. B. Ward, Comp. 1916.
 Michigan Academy of Science, 16th, 17th and 18th Annual Reports.
 U. S. Bureau of Fisheries, Report of the Commissioner for 1915.
 U. S. National Museum, Annual Report for 1916.
 U. S. National Museum Proceedings, Volume 51, 1917.
 U. S. Dept. of Agriculture, Year Book, 1914, 1915 and 1916.
 Ill. Centennial Commission, Illinois in 1818.
 Colorado State Geological Survey, Bulletin 9.
 Moseteno Vocabulary and Treatises, Benigno Bibolotte.
 New York State Museum Bulletin 173, Tenth Report of the Director.
 Nickel Deposits of the World, Ontario, Canada.
 Florida State Geological Survey, Ninth Annual Report.
 U. S. Bureau of Ethnology, Bulletin 63.
 New Jersey Geological Survey, Volume VIII, Surface Deposits, 1916.
 U. S. Coast and Geodetic Survey, Annual Report, 1917.
 Smithsonian Institution, Annual Report, 1916.
 Rutgers College, Celebration 150th Anniversary.
 Contributions from the Zoological Laboratory, H. B. Ward, Comp., 1917.
 Michigan Academy of Sciences, Nineteenth Annual Report.
 New York State Museum Bulletin No. 196, 13th Report, 1916.
 Library of Congress, Report of the Librarian, 1917.
 U. S. Interstate Commerce Commission, 31st Annual Report, 1917.
 U. S. Civil Service Commission, 34th Annual Report, 1917.
 U. S. National Museum Proceedings, Volume 52.
 U. S. National Museum Proceedings, Volume 53.
 Florida Geological Survey, Tenth and Eleventh Annual Reports.
 U. S. Bureau of Ethnology, Bulletin 61.
 U. S. Bureau of Ethnology, Bulletin 66.
 Smithsonian Institution, Annual Report 1885, Part 2.
 U. S. National Museum, Annual Report, 1917.

- Wisconsin Geol. and Nat. Hist. Survey Bulletin XLVII, Soil Ser. No. 12.
 Commercial Medical Research, American Red Cross, Trench Fever.
 Alabama Geological Survey Bulletin No. 17, 2d Report, Water Power of Ala.
 Alabama Geological Survey Bulletin No. 18, Marbles of Ala.
 Michigan Geological and Biological Survey, Pub. 20, Biol. Ser. 4.
 Colorado Geological Survey, Bulletin 13. Platoro-Summitville.
 League to Enforce Peace, Win the War for Permanent Peace.
 Library of Congress, Report of the Librarian, 1918.
 U. S. Interstate Commerce Commission, 32d Annual Report, 1918.
 U. S. Army, Infantry Drill Regulations, 1911.
 U. S. Bureau of Ethnology, Bulletin 59. Ketenai Tales.
 U. S. Civil Service Commission, Thirty-fifth Annual Report, 1918.
 New York State Museum Bulletin 146. N. Y. City Aqueduct.
 U. S. Coast and Geodetic Survey, Annual Report, 1918.
 U. S. Bureau of Fisheries, Bulletin XXXV, 1915-16.
 Carnegie Endowment for International Peace, Year Book, 1918.
 Ill. Centennial Commission. Centennial History of Ill., C. W. Alvord, ed.
 U. S. National Museum, report for year ending June 30, 1918.
 Ohio Geological Survey, Bulletin 21, Fourth Series.
 U. S. Bureau of Ethnology, 32d Annual Report, 1918.
 Michigan Academy of Science, 20th Annual Report.
 Florida Geological Survey, Twelfth Annual Report, 1919.
 U. S. Bureau of Ethnology, Bulletin 64, Maya, Indiana.
 Mississippi State Geological Survey, Bulletin 14, Soil and Minerals.
 Mississippi State Geological Survey, Bulletin 15, Oil and Gas.
 U. S. Bureau of Ethnology, Bulletin 65, 1919.
 Carnegie Endowment for International Peace, Year Book, 1919.
 Ill. First Administrative Report, Directors of Departments, 1917-18.
 U. S. Bureau of Fisheries, Report of the Commissioner, 1916.
 U. S. Bureau of Fisheries, Report of the Commissioner, 1917.
 Contributions Zoological Laboratory, Uni. of Ill., H. B. Ward, Comp.
 U. S. National Museum Proceedings, Volume 54, 1919.
 Ill. State Geological Survey, Bulletin 37, 1919.
 New Jersey Dept. of Conservation and Development, 1918.
 League of Red Cross Societies, Cannes Medical Conference, 1919.
 U. S. Coast and Geodetic Survey, Annual Report, 1919.
 U. S. Civil Service Commission, Thirty-sixth Annual Report, 1919.
 Ill. State Geological Survey, Bulletin 40, Oil Investigations, 1917-18.
 The Agaricaceae of Michigan, Kauffman, I Text.
 The Agaricaceae of Michigan, Kauffman, II Plates.
 U. S. Bureau of Ethnology Bulletin 69, Native Villages.
 U. S. Interstate Commerce Commission, 33d Annual Report, 1919.
 U. S. Bureau of Ethnology Bulletin 60, Part I. Handbook.
 U. S. Bureau of Ethnology Bulletin 70, Prehistoric Villages.
 Maryland Geological Survey, Anne Arundel County and Maps, 1917.
 Maryland Geological Survey, Volume X, 1918.
 U. S. National Museum Report, 1918.
 U. S. Bureau of Ethnology, 33d Annual Report, 1919.
 U. S. Bureau of Ethnology Bulletin 68. Tunica, 1919.
 U. S. National Museum Proceedings, Volume 55, 1920.
 Maryland Geological Survey, 1919.
 U. S. National Museum Proceedings, Volume 56, 1920.
 Illinois State Parks and Memorials, 1920.
 U. S. Bureau of Fisheries, Report of the Commissioner, 1918.
 Soldiers and Sailors of France, Capt. Joachim Merlant.
 U. S. National Museum, Report 1919.
 Ill. State Geological Survey, Bulletin 34, Artesian Waters of N. E. Ill.
 Photographic Printing Methods, Burbank. R. A. Lapham.
 Smithsonian Institution, Annual Report, 1917.
 • Illinois State Geological Survey, Bulletin 36. Administrative Report, 1920.
 U. S. Bureau of Ethnology, Bulletin 71, Native Cemeteries, 1920.
 Contribution from Zoological Laboratory, H. B. Ward, Comp.
 Ill. Laws of the State Enacted by the Forty-eighth General Assembly.
 Ill. Laws of the State Enacted by the Forty-ninth General Assembly.
 Ill. Laws of the State Enacted by the Fiftieth General Assembly.
 Ill. Laws of the State Enacted by the Fifty-first General Assembly.
 Ill. Legislative Reference Bureau, Constitutional Convention Bulletins.
 Ill. House Debates, Fifty-first General Assembly.
 Ill. Blue Book, ed. by L. L. Emmerson, Secretary of State, 1919-20.

A. R. CROOK, *Chief.*

THE IMMIGRANTS COMMISSION

The Immigrants Commission was established by the Fifty-first General Assembly through an amendment to the Civil Administrative Code, approved June 10, 1919. This created in the Department of Registration and Education the Immigrants Commission, which was empowered to:

1. Make a survey of the immigrant, alien born and foreign speaking people of the State, and of their distribution, conditions of employment, and standards of housing and living;

2. Examine into their economic, financial and legal customs, their provisions for insurance and other prudential arrangements, their social organizations, and their educational needs; keeping in friendly and sympathetic touch with alien groups and cooperating with State and local officials, and with immigrant or related authorities of other states and of the United States.

The ground had been prepared in a measure for the Immigrants Commission through the effective work of a volunteer organization in Chicago known as the Immigrants Protective League. The supporters of this league included a number who had manifested particular interest in the work, so that in the selection of the Commission there were quickly found those who were admirably qualified for the important and responsible task of organizing a new division of the State Government.

The Commission was appointed by Governor Lowden on November 24, 1919, as follows: Francis W. Shepardson, Springfield, chosen as Chairman of the Commission; Mrs. Harlan Ward Cooley, Chicago; Abel Davis, Chicago; John W. Fornof, Streator; and Charles F. Harding, Chicago. The ideal executive was also available in the person of Miss Grace Abbott, although at the time of her selection her services were earnestly sought by the States of Massachusetts and California, and the beginning of her activities for Illinois was somewhat delayed because of a request from the United States Government that she be allowed to undertake a special work of importance for it. Miss Abbott is a graduate of the University of Chicago. After a few years' experience as a teacher she became Director of the Immigrants Protective League in 1908, which position she retained until 1916 when she was made Director of the Child Labor Division of the Children's Bureau at Washington. She is the author of "The Immigrant and the Community," and of many articles in magazines devoted to social welfare. She also has had the advantage of living at Hull House during the years of her residence in Chicago. She accepted the position of Executive Secretary of the Immi-

grants Commission and began her work on January 1, 1920. Quarters for the commission were secured at 538 North Dearborn Street, Chicago, near to the railroad depots through which the great majority of immigrants reach Chicago.

By reason of an error in the budget which reduced the State appropriation for the commission from \$15,000 per annum to \$15,000 for the biennium, the initial work of the commission was greatly crippled. At this juncture, however, the friends of the Immigrants Protective League came forward with a proposition to renew their previous voluntary subscriptions and in this way a sufficient fund was secured to enable the commission to go forward, though with much restricted activities.

Naturally the first few months of the commission were given over to a careful study of the problem in order that the best possible results might be obtained for Illinois. Frequent reports were made by the Executive Secretary to the members of the commission, and two formal meetings of the commission were held in Chicago, one on May 8, 1920, and one on June 18, 1920. These reports showed that investigations and surveys were made in connection with the educational needs of the immigrant in order to find out what is being done to meet the educational needs of immigrant children and adult immigrants, especially those unable to speak the English language; how many illiterate and non-English speaking residents there are in Illinois; what New York, Massachusetts, California, and other states are doing in this field.

Some of the questions to be solved are, should all those under twenty-one years of age who are not literate, according to the Illinois law, be required to attend school; ought there be a Federal subsidy for immigrant education; ought there be a State subsidy, and if so, what should be the basis of distribution; ought the State take the lead in training teachers for this work? This information was sought through questionnaires sent out to all cities and towns having a population of 2,500 in 1910 or a school enrollment of 500 at the last report of the State Superintendent. Some investigations were also made of mining communities to discover the racial character of the population and to study the social agencies.

Returns from this inquiry seemed to show that none of the counties having large non-English population have any social agencies nor do they afford any opportunity to the non-English speaking immigrant to learn the language and prepare for naturalization.

A great deal of protective case work was done in Chicago and its immediate vicinity, representatives from thirty race elements appealing to the commission for assistance. Efforts were made to disseminate information relative to the work of the commission, and particularly in foreign language papers, most of which have been generous in the amount of space given and in the kindly interest shown.

The offices of the commission have been besieged by immigrants who have been greatly distressed because of inability to get money transmitted to their needy relatives and friends abroad. The commission has cooperated in every way possible with these immigrants, holding conferences with representatives of the banks which transmit such funds in large amount, and cooperating with the Department of State of the Federal Government in efforts to alleviate the distress both in Illinois and in foreign lands. Much help and advice has also been given in connection with the bringing of relatives to America, a work beset with many difficulties as a result of the World War. Quite a good deal of progress has been made toward a preliminary study of the social organizations of immigrants in Chicago.

FRANCIS W. SHEPARDSON, *Director.*

REGISTRATION

The receipts in the Division of Registration for the year ending June 30, 1920, were \$115,158.16. These receipts were from the following sources: Architects, \$4,760.00; Barbers, \$19,051.00; Chiropodists, \$1,965.00; Dentists, \$7,290.00; Embalmers, \$4,905.00; Horseshoers, \$5,682.00; Midwives, \$17.00; Nurses, \$11,383.00; Optometrists, \$15,714.00; Pharmacists, \$20,280.10; Physicians, \$12,842.00; Plumbers, \$5,298.50; Structural Engineers, \$3,541.00; Veterinarians, \$1,080.00; Miscellaneous, \$1,347.56.

The expenditures from appropriations for the year were \$77,138.00, the excess of receipts over expenditures being \$38,018.16.

There are thirteen laws regulating professions, trades and occupations which are administered by the Division of Registration. They are architecture, barbering, chiropody, dentistry, embalming, horseshoeing, medicine, nursing, optometry, pharmacy, plumbing, structural engineering and veterinary medicine and surgery. The laws regulating these various professions, trades and occupations provide for examinations from time to time during the year by professional committees appointed by the Director of the department. A condensed statement of the examinations held during the year is as follows:

ARCHITECTS

Two examinations for architects were held during the year. At these examinations there were 97 applicants, 35 of whom were successful. At the close of business on June 30 there were 1,119 registered architects in good standing in the State. Of this number, 1,070 were those to whom renewal certificates had been issued during the year, and 49 were original certificates of registration issued during the time covered by this report. This includes a number of applicants who successfully passed examinations prior to July 1, 1919, but who up to that time had not paid the fees for certificates.

BARBERS

Fifty examinations for barbers were held during the year. Six of these examinations were held in Chicago and four each in the cities of Springfield, East St. Louis, Centralia, Carbondale, Harrisburg, Quincy, Urbana, Peoria, Moline, Rockford and Ottawa. At these examinations there were 949 applicants, of whom 930 were successful.

At the close of the year there were 13,654 licensed barbers in good standing in the State. This is an increase of 353 over the year ending June 30, 1919.

CHIROPODISTS

Two examinations for chiropodists were held during the year. In these examinations there were 49 applicants, all of them being successful. Twenty-eight of the successful applicants were not granted original certificates of registration until a few days after the close of the year covered by this report. Their certificates were withheld in order that they might not be required to pay the annual renewal fee for the year ending June 30, 1920. However, they are included in this report. On June 30, 1920, there were 473 registered chiropodists in good standing in the State.

DENTISTS

Two examinations for licensed dentists were held during the year in the city of Chicago, in the months of November, 1919, and June, 1920. There were 144 applicants in the November examination and 142 in the June examination. During the year covered by this report 447 original licenses were issued by the department. Of this number, 313 were granted to applicants who were successful in the June, 1919, examination, but whose papers were not graded prior to July 1 of that year, 123 were to successful applicants in the November, 1919, examination, and eleven were by reciprocity. The papers of the applicants who took the June, 1920, examination were not graded in time to include the number of successful candidates in this report.

On June 30, 1920, there were 5,845 licensed dentists in good standing in the State.

EMBALMERS

Two examinations for registered embalmers were held during the year in the city of Chicago. There were 151 applicants at the examinations, of whom 141 were successful. On June 30, 1920, there were 3,236 registered embalmers in good standing in the State.

The new Embalming Act, which took effect July 1, 1919, provides that after July 1, 1920, it shall be unlawful for any person to serve or to attempt to serve as an apprentice under a registered embalmer without a certificate of registration as a registered apprentice, issued by this department. All apprentices under registered embalmers were given one year in which to procure registration by this department. During the year, 411 certificates of registration as registered apprentices were issued.

HORSESHOERS

Sixteen examinations for horseshoers were held during the year, two each in the cities of Chicago, Springfield, Danville, East St. Louis, Rockford, Peoria and Effingham, and one each in the cities of Benton and Pinckneyville. At these examinations there were 309 applicants, 170 of them being successful. On June 30, 1920, there were 4,011 registered

horseshoers in good standing in the State. This includes 3,863 who were granted renewal certificates during the year and 248 who were granted original certificates during the same period of time. Of the 248 to whom original certificates were issued, 78 were applicants who had passed successful examinations before July 1, 1919.

MEDICAL PRACTITIONERS

Four examinations for licensed physicians were held during the year ending June 30, 1920, all being held in the city of Chicago, principally on account of the facilities afforded by the Cook County Hospital for the practical test which is required of all applicants. At these examinations, 843 applicants reported, of whom 530 were successful. Applicants on the basis of reciprocity to the number of 83 are included among the 530 successful candidates.

During the year, the department issued 600 licenses to physicians. Of this number, 336 were issued as the result of written examinations. 91 were by reciprocity and 173 temporary licenses, i. e., entitling the applicant to practice in a hospital only. The law does not require annual renewals of certificates issued under the provisions of the Medical Practice Act. It is, therefore, impossible to tell how many physicians there were in good standing in the State on June 30, 1920.

Four examinations for osteopathic physicians were held during the year ending June 30, 1920, all in the city of Chicago, concurrently with the physicians' examinations. At these examinations 35 applicants reported, of whom 30 were successful.

REGISTERED NURSES

Four examinations for registered nurses were held during the year. At these examinations there were 795 applicants, of whom 584 were successful. During the year the department issued 638 original certificates of registration, of which 31 were by reciprocity. Of the total number issued, 210 were to applicants who passed successful examinations prior to June 30, 1919, but whose examination papers had not been graded in time to be included in the report of last year. The examination papers of applicants who took the examination in May of this year were not graded in time to announce the results in this report.

In the Nursing Act which took effect July 1, 1919, provision is made that every registered nurse who continues in the active practice of her profession shall pay an annual renewal fee of \$1.00. On June 30, 1920, the department had issued 3,626 renewal certificates of registration. On that day there were 3,770 registered nurses in good standing in the State. This includes those who paid the annual renewal fee referred to and those who received original certificates of registration between April 1 and June 30, 1920.

OPTOMETRISTS

The optometry law, which went into effect July 1, 1919, contains a provision that all persons who were actively engaged in the practice of optometry at an established place of business in Illinois for at least one year immediately preceding the taking effect of the act could secure certificates of registration as registered optometrists without taking an examination, provided the necessary application and proofs were filed with the department not later than October 1. The department issued 2,180 certificates of registration under this provision of the law. Approximately 150 of this number later took a regular examination in order that they might secure certificates of registration "By Examination."

The law also requires that a person who is not eligible to a certificate of registration in accordance with the above provision must take an examination in order to secure a certificate of registration. Three examinations of such applicants were held during the year. At these examinations there were 204 applicants of whom 198 were successful.

PHARMACISTS

Four examinations for registered pharmacist and assistant pharmacist were held during the year. At these examinations there were 422 applicants for registered pharmacist, 250 for assistant pharmacist and 6 for local registered pharmacist. Not including the applicants who took the June, 1920, examination, whose examination papers were not graded in time to announce the results in this report, 105 registered pharmacists, 76 assistant pharmacists and 3 local registered pharmacists were successful in their examinations.

During the time covered by this report, the department issued 204 original certificates of registration as registered pharmacists, including 80 by reciprocity, 99 certificates of registration as assistant pharmacists, and 3 certificates of registration as local registered pharmacists. Included in these figures are 19 registered pharmacists and 23 assistant pharmacists who passed successful examinations prior to July 1, 1919, but who did not pay the certificate fees required by law in time to be included in our last annual report.

On June 30, 1920, there were 5,768 registered pharmacists, 364 local registered pharmacists and 862 assistant pharmacists in good standing in the State.

During the year 930 pharmacy apprentice certificates were issued.

PLUMBERS

Examinations for plumbers are conducted by local boards of examiners throughout the State. These boards consist of three members each. The Chairman of the Board of Health, Health Officer, or Commissioner of Health, as the case may be, is ex-officio chairman of the Board of Examiners of Plumbers. The two other members are appointed by the Mayor and approved by the City Counsel or City Commissioner.

This department has no jurisdiction over boards of examiners of plumbers. The only jurisdiction it has is to issue annual renewals of certificates of registration to master plumbers and journeymen plumbers who do not reside within the corporate limits of a city which has a board of examiners of plumbers. The annual renewal fee for a certificate of registration as a master plumber is \$10.00 and for a journeyman it is \$1.00.

During the year covered by this report the department issued 447 renewal certificates to master plumbers and 337 to journeymen. Of these numbers, 108 of the master plumber and 67 of the journeyman certificates were original issues. The remainder were issued to persons who had heretofore renewed with this department.

STRUCTURAL ENGINEERS

Two examinations for structural engineers were held during the year. At these examinations there were 48 applicants, of whom 35 were successful. At the close of business on June 30, there were 751 registered structural engineers in good standing in the State. Of this number 718 were those to whom renewal certificates had been issued during the year and 33 were original certificates issued as a result of the examinations.

VETERINARIANS

Two examinations for licensed veterinarians were held during the year. At these examinations there were 55 applicants, of whom 29 were successful. The law to regulate the practice of veterinary medicine does not require an annual renewal fee, and it is, therefore, impossible to state the number of licensed veterinarians in good standing in Illinois.

QUALIFYING CERTIFICATES

During the year ending June 30, 1920, qualifying certificates were issued to 2,534 applicants, thereby approving their preliminary education for admission to approved schools of medicine, drugless healing, dentistry, pharmacy, optometry, veterinary science, chiropody and nursing.

Report of

THE ADJUTANT GENERAL

From October 1, 1918, to November 30, 1920

STATE OF ILLINOIS
MILITARY AND NAVAL DEPARTMENT
SPRINGFIELD

Governor FRANK O. LOWDEN, Commander in Chief.
Brigadier General FRANK S. DICKSON, The Adjutant General,
Chief of Staff
Colonel RICHINGS J. SHAND, Assistant Adjutant General
Colonel S. O. TRIPP, Assistant Quartermaster General
Colonel FRANK L. TAYLOR, Chief Clerk

SELECTIVE SERVICE DEPARTMENT (FEDERAL)

Governor FRANK O. LOWDEN, Executive Head
Brigadier General FRANK S. DICKSON, The Adjutant General
Major EDGAR B. TOLMAN, Infantry, U. S. A.,
Assistant to The Adjutant General
Captain FRANCIS E. WILMS, Chief Clerk

MILITARY ORGANIZATIONS

First Brigade, Illinois National Guard, Brigadier General
FRANK S. DICKSON Commanding
Ninth Regiment of Infantry, Colonel FRANK L. TAYLOR Commanding
Tenth Regiment of Infantry, Colonel O. P. YEAGER Commanding
Eleventh Regiment of Infantry, Colonel JAMES E. STUART
Commanding

First Brigade, Illinois Reserve Militia, Brigadier General
LEROY T. STEWART, Commanding
First Regiment, Colonel ANTON F. LORENZEN Commanding
Second Regiment, Colonel JOSEPH C. WILSON Commanding
Third Regiment, Colonel A. L. BOLTE Commanding
Fourth Regiment, Colonel WILLIAM H. BECKMAN Commanding
Depot Organization (Attached)

Second Brigade, Illinois Reserve Militia, Brigadier General
FRANK P. WELLS Commanding
Fifth Regiment, Colonel CHARLES P. SUMMERS Commanding
Sixth Regiment, Colonel FRANK BACON Commanding
Seventh Regiment, Colonel HAL SMITH Commanding
Eighth Regiment, Colonel CLARE IRWIN Commanding
Depot Organization (Attached)
First Separate Battalion, Major JOHN R. MARSHALL Commanding

MILITARY AND NAVAL DEPARTMENT

FRANK S. DICKSON, *The Adjutant General, Chief of Staff*

I have the honor to submit herewith report of this department for the period October 1, 1918, up to and including the 30th day of November, 1920. For the purpose of clarity I have covered these operations under four general heads:

First, Selective Service.

Second, War Record Division.

Third, Military Organization, Operation and Policy.

Fourth, Financial Statement.

SELECTIVE SERVICE

At the time of our last biennial report we were in the midst of the press of work incident to the operation by the State of the Federal Selective Service Act. As the war which called this activity into being has been fought to victory by the United States and associated powers and the book of Illinois' participation has been closed since the submission of my previous report, it may not be without interest to invite attention to the operation of the machinery to create a huge army, mobilize, train and send it to the battlefields abroad. The story is a tribute to the sincere patriotism, good judgment and basic good sense of our people that they so promptly recognized the necessity and accepted it as a pre-requisite of victory. Despite the pre-war critics of American institutions who had freely predicted that in the event of a big war our people would not respond to the call of self-sacrificing service, the result of that call shows that too much cannot be said in praise of the lofty spirit manifested and of the willingness with which our people gave their lives in defense of sacred rights. In addition to the many thousands of patriotic citizens who enlisted voluntarily in the National Guard, in the Army, the Navy, Marines and other branches of service there were enrolled under the Selective Service Act through the agency of local boards throughout the Nation 24,000,000 registrants. On November 11, 1918, when the President directed the immediate discontinuance of all mobilization there had been mobilized an army of 2,758,542 men through the selective service machinery. Citizens of Illinois may point with commendable pride to the record of this State in the World War. I present below a concise tabulation of the forces furnished by Illinois during the war:

1. INDUCTIONS

	White.	Colored.	Total.
1st registration	159,171	7,806	166,977
2d registration	10,120	880	11,000
3d registration	9,971	62	10,033
Individual inductions			5,255
Total			193,573

2. ENLISTMENTS

Total enlistments in navy.....		28,264
Total enlistments in marines.....		4,550
National Guard		25,045
Army—Credits 1st quota.....	27,304	
Army—Credits 2d quota.....	34,540	
All subsequent credits up to and including November 11, 1918..	55,608	
	117,452	
Deduct National Guard credits.....	25,045	
		92,407
Total enlistments		150,266
Total inductions and enlistments.....		343,604

The above figures are as complete as can be at present obtained either from State Headquarters or from the War Department. These figures may be slightly changed by the final check-up of the individual record cards, as prepared from data from State Headquarters, from mobilization camps, from recruiting stations, etc. but the final and definite figure will be available only after the War Department finishes the present task of correlating all these elements of information and furnishes same to the states by way of the individual card records. This work is now in process but will doubtless require several months for completion. The above figures have been compiled from the most accurate present data of State Headquarters and the War Department, and it is firmly believed that the final figures will very slightly, if at all, disturb the total set forth above.

I present also the tabulation of the selective service machinery of the State which operated with such splendid efficiency that the selective service officials at Washington most earnestly commended the State's endeavors and advised that the results obtained in several lines of efficiency were superior to those obtained in any other state of the Union.

Some idea of the tremendous amount of work done by State headquarters and the different boards in Illinois may be obtained from the statement that it required the capacity of freight cars covering a track-age of three miles to convey the selective service records of Illinois to Washington for deposit.

STATE HEADQUARTERS

- The Governor—Frank O. Lowden.
- The Adjutant General—Brigadier General Frank S. Dickson.
- The Army Officer detailed as Assistant to the Adjutant General—June C. Smith, Major, Infantry, U. S. A., resigned; succeeded by Edgar B. Tolman, Major, Infantry, U. S. A.
- Chief Clerk—Francis E. Wilms, Captain, Infantry, A. G. O., I. N. G.

DIVISIONAL ORGANIZATION

Fiscal—Membership	5
Mobilization—Membership	2
Delinquents—Registration—Membership	1
Files and records—Membership.....	2
Mail—Membership	4
Discharge from camp—Aliens—Appeal to the President—Membership	1
Telephone service—Membership	1

Limited service soldier clerks—Membership.....	6
Cook County Branch State Headquarters, 112 West Adams Street, Chicago—Membership	3
Total membership State Headquarters.....	38
8 District Boards—Total membership.....	67
227 Registration Boards—Total membership.....	681
36 Medical Advisory Boards—Total membership.....	584
Central Legal Advisory Board—Total membership.....	4
227 Legal Advisory Boards—Total membership.....	681
Grand total	2,055

I must again commend the continuing cooperative activities up to the close of the war of the thousands of men and women who voluntarily cooperated with the constituted officials in the selective service work of the State. None of these agencies was more effective than the military organizations which we had in the State. All of the State's organizations were of great value in giving to the selected men such preliminary training as enabled them to merit and receive rapid promotion upon reporting to mobilization camps and cantonments. Since the conclusion of the war the Government, in response to a general demand throughout the country that the offense of those who failed to comply with the obligations of military service should not be condoned or overlooked, is taking effective steps to apprehend and bring to trial those draft registrants guilty of wilful desertion. In this effort the War Department is invoking the aid of the Governor of this and the other states and all the state agencies which they may be able to reach.

In December, 1918, local draft boards were directed to segregate from the 24,000,000 records of draft registrants, the records of all men reported during the entire period of the war as draft deserters. These records included 489,003 names. This total number seems very large at first but investigation discloses that a considerable portion charged with desertion did not wilfully evade military service. For instance, the draft boards of Illinois reported a total desertion and delinquency of 40,730. At the present time that number has been so modified that there now remains only 16,193 deserters, 1,781 entrainment deserters and 7,795 wilful delinquents. This number will, of course, be materially reduced in investigations now being made. Many registrants enlisted in the Navy or Marine Corps, failing to inform their local boards that they had volunteered for service, and were classified as deserters, though actually in service. A large number of men during the first part of the war failed to report for military duty because of ignorance of the draft act. As widespread and complete information was given to the country, a great number of such men later reported to military camps for service. A certain percentage of registrants died after their induction order had been mailed. Other registrants served in the military or naval forces of some of our allies.

Even during the actual progress of the war by reason of the above discovered situations and others, the War Department was able to dispose of cases of 163,000 men who had been reported as deserters. The remaining 325,000 names have been arranged by the War Department in two groups, the first group consisting of some 174,000 names of draft registrants who had been ordered by the draft boards to report for military duty and whose draft records contained nothing to indicate that their offense in not reporting was not wilful.

The second group consisting of 151,000, are those shown by an examination of draft records not properly to be chargeable with draft desertion. Thus out of 24,000,000 registrants the maximum number now chargeable with wilful desertion is less than 1 per cent of the total registration. It is the purpose of the War Department to publish this list of 174,000 registrants as wilful deserters as soon as all names that should not appear thereon can be eliminated. It is known that even this list embraces probably thousands of names of men who should properly be eliminated if all the surrounding facts and circumstances could be ascertained. It is eminently desirable to avoid publishing to the country as deserters the names of any persons who did not in fact wilfully desert. The War Department could not possibly know of these facts unless brought to its attention by the interested parties. For this information the War Department is largely dependent upon the men themselves, their friends, relatives and communities voluntarily submitting information to it. In order to secure this information it is desired to give general publicity throughout the country to the fact that many men now included in this list are largely technical deserters only and they should write to the Adjutant General of the Army, ascertain their status and take steps to straighten out their record.

All the agencies of Government feel deeply their responsibility to exhaust every practical means of eliminating the names of innocent men from the list of draft deserters before its publication. To publish the name of an individual who actually served his country honorably during the war would do him an irreparable injury, as no subsequent announcement by the War Department or the individual could completely remove the blemish from his name or mend his damaged reputation. Especially in view of the fine response made by the young manhood of the country, it is most desirable that when the final list of wilful deserters is published broadcast by the Government it contain no name which should not be thus made public for, as pointed out above, no amount of explanation or correction could ever undo the damage wrought.

There are two phases of the War Department's plan. The first calls for the general assistance of the country in cleaning the slate of men technically classified as deserters who did not in fact desert or in whose cases such extenuating circumstances exist that the men should not be placarded to the country as deserters. The second phase will

commence when the consolidated list has been reduced by the names of those who should not appear thereon, when the reduced list will be published to the country and every effort made to apprehend and punish those who wilfully evaded military service. In order, therefore, properly to cooperate with the War Department and in the interest of the magnificent service in the war of the young manhood from our own State of Illinois, it is desirable that the greatest publicity in this matter be had to the end that any registrant from this State who knows that his record does not at this time stand clear may write at once to the Adjutant General of the Army in Washington, thus taking the prescribed initial step in the elimination of his name from the list of wilful deserters to be subsequently published and proceeded against. Also if any friend or relative of anyone in the community knows of any such circumstances it is urged that communication be at once had with the Adjutant General of the Army in order that any present wrong in this matter may be speedily righted and that no innocent citizen of Illinois be made to suffer along with those whose deliberate wilful desertion justly entitles them to punishment for failure to do their duty in a service in which so many thousands of our young manhood faithfully served, and in which so many unfortunately were called upon to make the supreme sacrifice.

WAR RECORD DIVISION

The last General Assembly recognizing the necessity for an official compilation of all available data with reference to the men from Illinois serving in the different branches of service in the World War took preliminary steps along lines followed in the Civil War and Spanish-American War and made initial appropriation to establish a War Record Division of the Adjutant General's Office for the compilation of all this war data. In this division is being prepared the complete official record of every man who served in the Mexican border service and every man who saw service in the Army, Navy or Marine Corps in the great war. The collection of all the data, which in its minutest detail must be official, is clearly a tremendous task. The official records of the Illinois men serving in the Civil War were compiled by the then Adjutant General and embrace eight volumes; the Spanish-American War records embrace five volumes and the Mexican and Black Hawk Wars, one volume. The preparation of the work now in hand however embraces the individual military record of each soldier serving in the Army, approximately 323,000; the same for each sailor in the Navy, approximately 29,000; the same for the Marines, approximately 4,000; the same for the Mexican border service, approximately 12,000; and the Thirty-third Division, which was strictly an Illinois division, and the roster of the Illinois National Guard by organizations as they were when called into the Federal service. In addition to this printed record there must be made a complete card record of each soldier, sailor and marine. For

the Mexican border service both cards and manuscript are prepared from the muster roll of the organization and in the preparation of these records as many as five different muster rolls require examination. At the present time the cards and manuscripts of six regiments have been completed, leaving two more regiments to be finished. All this official record must be prepared from information furnished by the War and Navy Departments in Washington. These manuscripts when prepared will generally show the following information: name, rank, Army serial number, residence, age or date of birth, place of birth, place of enlistment or induction; whether of Regular Army, National Guard, National Army or Enlisted Reserve Corps; organizations in which served, grades with promotions and dates; engagements and battles; wounds received in action; service overseas with dates; killed in action with dates; died with wounds, and dates; died with disease, and date and name of disease. In case of death, the name of person notified will be shown. Discharge and date and reason for discharge will be shown. If disabled on discharge, the degree of disability will be shown. The work is made more difficult because of the many obvious inaccuracies, particularly names of towns and battles misspelled, which requires most careful checking and rechecking to avoid the slightest mistake in the final result as inaccuracy would render the whole work invaluable as an official record.

The magnitude of the work involved is infinitely greater than any of the records of Illinois' service men before undertaken by the Adjutant General's department, not only because of the tremendous additional number but also from the fact that in all of our previous services organizations went from the State as State organizations in their entirety and, therefore, one general muster roll of a company, battery, troop or higher unit could be used for the preparation of record material. In the present instance, however, outside the muster rolls of the original National Guard, every record is a record of personal enlistment or induction and in the completed work cannot be grouped in units or organizations as in former services. The value of this work when officially complete cannot be estimated. It becomes the State's official record of all of that flower of her citizenship which saw service on the Mexican border or in the great war. It becomes invaluable for historical and benevolent purposes. In addition to general distribution to libraries, State, county and other officials, legion posts, etc., it is essential in making it possible for the State to furnish throughout the years official service certificates to individual soldiers whose records are embraced therein, to be used in connection with any official matters with the Government or any other agency where a certificate of their complete record in the military service is required. This work has reached a point of progress which enables the Adjutant General to say that the finished product will require for the National Guard when called into Federal service, 2 volumes; the Thirty-third Division, 5 volumes; Mexican

border service, 2 volumes; Marines, 1 volume; Navy, 4 volumes and the Army service, 42 volumes of approximately 700 pages each.

MILITARY ORGANIZATION, OPERATION AND POLICY

By reference to my last report it will be found that the former National Guard of Illinois was yet overseas and said report set out in detail the character and extent of the military organization we had at that time. Since the last report, the former National Guard organizations of Illinois have been released from Federal service. Under a ruling of the War Department, however, the call of the federalized National Guard into the Federal service automatically discharged them from any further pending military obligations to the State. The State military organizations listed in my last report were emergency organizations organized for the purpose of the preservation of order and maintenance of supremacy of the law within the State during the period of the great World War. The terms of service of the majority of the men composing these State organizations were at the time of my last report rapidly drawing to a close. The re-creation, therefore, of a new National Guard for federalization was an imminent necessity. It was found, however, when the initial steps were taken, that many obvious conditions combined to render this organization at that time most difficult. In this emergency that body which had functioned so faithfully during the war again met the situation presented and with practical unanimity said in effect "we shall continue to serve our State until such time as conditions make possible the reorganization of a permanent military establishment." In order, however, that this splendid response might get the definite assurance, there was published General Orders No. 21, A. G. O., 1919, which outlined the policy of the Commander-in-Chief with reference to the continuation of the existent State military force and the creation of a new permanent military force. I quote this order in its entirety:

MILITARY AND NAVAL DEPARTMENT

STATE OF ILLINOIS

GENERAL ORDERS

No. 21

SPRINGFIELD, *October 6, 1919.*

Conditions which required the creation and maintenance of the present military forces of Illinois continue and the existence of these troops still remains a vital necessity to the State.

When the country was engaged in a world war whose duration and outcome could not be foreseen the creation of the existing forces was an emergency measure and it was consequently impossible at the time to announce any definite program either as to the future of these organizations or an approximation of the period during which their services would be required. With the end of the war, return of our soldiers, with the general policy of the reorganization of the National Guard now more or less outlined and with the general conditions affecting law and order in the State reasonably comprehended, a more definite policy than

previously possible may be formulated. Therefore the following general policy will become effective immediately:

(a) The continued maintenance and active support of the existing organizations including such reasonably adequate armory facilities as may be procured, issue of clothing, arms and equipment and such plan of training and instruction as will render organizations the more efficient for the active needs of the State.

(b) Simultaneously, active steps will be taken to re-create the National Guard along organization lines looking toward the ultimate infantry division in the State.

(c) In fulfilling the plan indicated in subparagraph "b" the privilege, if desired by existing State force of entry by organization into the Federalized National Guard of the State will be given, subject, of course, to a compliance with the Federal regulations and to the limitations of allotment of troops to the State.

(d) The right will be accorded State organizations to be mustered out October 1, 1920. If, on this indicated date, any such organization desires to waive such muster-out, any individual member thereof whose term of enlistment extends beyond, shall have the right of discharge on said date.

The above section will not be construed as an attempt to extend the period of enlistment of any man now in the service without re-enlistment on his part.

By command of the Governor,

FRANK S. DICKSON,
The Adjutant General, Chief of Staff.

After the first steps in the reorganization of the National Guard the Commander-in-Chief commissioned Joseph B. Sanborn, formerly of the First Infantry, Illinois, and who commanded the One Hundred Thirty-first Infantry overseas, as Colonel, First Infantry, Illinois National Guard, June 5, 1919. Colonel Sanborn subsequently was promoted June 23, 1920, to the rank of Major General, commanding the division.

The Governor also appointed Colonel Milton J. Foreman, formerly Colonel of the Second Illinois Field Artillery, later commanding the One Hundred Twenty-second Field Artillery overseas, as Colonel, First Illinois Field Artillery. Colonel Foreman was subsequently promoted Brigadier General of Artillery June 23, 1920. Colonel Abel Davis, who commanded the One Hundred Thirty-second Infantry overseas, was appointed Colonel, Second Infantry, Illinois, June 26, 1919, and promoted to Brigadier General of Infantry June 23, 1920. Colonel Henry J. Reilly, formerly commander of First Illinois Field Artillery, later commander of One Hundred Forty-ninth Field Artillery overseas, was made Colonel Seventh Infantry, Illinois National Guard June 26, 1919. Anson L. Bolte, formerly Colonel Third Illinois Reserve Militia, was made Colonel First Infantry, National Guard, September 8, 1920. William E. Swanson, formerly Lieutenant Colonel Eleventh Infantry, Illinois National Guard, was made Colonel Second Infantry, Illinois National Guard September 28, 1920. Colonel Otis B. Duncan, formerly Major, Eighth Illinois National Guard, later Lieutenant Colonel, Three Hundred Seventieth Infantry overseas, was appointed Colonel, Eighth Infantry, Illinois National Guard, June 25, 1919. Henry A. Allen, formerly commander, First Illinois Regiment of Engineers, later com-

mander of One Hundred Eighth Engineers overseas, was made Colonel of Engineers November 19, 1919. Charles G. Davis, formerly commander Sixth Infantry, Illinois National Guard, later commander One Hundred Twenty-third Field Artillery overseas, was commissioned Colonel of Artillery October 25, 1919. Frank R. Schwengel, Lieutenant Colonel, One Hundred Twenty-second Field Artillery, overseas, was appointed Colonel, First Field Artillery, Illinois National Guard June 23, 1920, upon the promotion of Colonel Foreman to brigade command. John V. Clinnin, commanding One Hundred Thirtieth Infantry overseas, appointed Colonel Sixth Infantry, Illinois National Guard October 1, 1920. Colonel Charles H. Greene who commanded the One Hundred Twenty-ninth Infantry overseas, Colonel O. P. Yeager who commanded the Tenth Infantry and Colonel Frank L. Taylor who commanded the Ninth Infantry have been designated to reorganize the Third, Fifth and Fourth Regiments respectively. Captain Herbert W. Styles who commanded Headquarters Troop, Thirty-third Division overseas was commissioned Major of Cavalry, Illinois National Guard, October 18, 1920. Oscar S. Seaver was commissioned Captain, commanding Tank Company, Illinois National Guard, November 15, 1920.

In the work of recruitment and reorganization of the National Guard a splendid plan was devised in Chicago in the creation of the Chicago National Guard Commission. The commission is composed of the representative citizenship of Chicago and was organized upon the request of the Commander-in-Chief. Its objects are to assist in the reorganization and the maintenance of an efficient federalized National Guard in Chicago. The plan in operation is too voluminous to be covered in a report of this character, but suffice to say that through its able leadership and the splendid cooperation of its members, one with the other and all with the National Guard movement, satisfactory results are being obtained in the city of Chicago.

It is gratifying to report that in the re-creation of the National Guard not only many individuals but a number of units of those in the State service as well as a great number of men who served overseas are joining with the new material to make up this new force.

Within the past month Federal inspection and recognition have been extended to five units of the State and at the present time Federal inspections have been had, with the results not yet published by the War Department, of five additional companies of infantry and three batteries of field artillery, while four infantry companies have been reported ready for inspection and are awaiting the arrival of Federal inspectors. A report from the regimental commanders shows that by the last of December we will have at least 15 additional infantry companies, in addition to the ones mentioned above, ready for Federal inspection.

Our organization up to the present time has been based, as directed by the War Department, on Tables of Organization of the Army, 1917.

There has been prepared under the direction of a committee of the General Staff, as provided in the new Army Reorganization Act, a new table of organization and regulation affecting National Guard, which tentative table is being carefully considered by the War Department officials and Corps Area Commanders and respective Adjutants General. It would serve no purpose to attempt to incorporate this tentative organization plan and allocation in this report as it may be materially modified before its final promulgation by the War Department. One radical change, however, from the system of the earlier National Guard days and the present has been determined. Under the Army Reorganization Act the United States for military purposes has been divided into corps areas instead of departments. Illinois was formerly in the Central Department of the Army which department embraced the territory extending from the Alleghenies to the Rocky Mountains. Under the reorganization plans Illinois is now in the Sixth Corps Area, which embraces only the states of Illinois, Wisconsin and Michigan. Undoubtedly the purpose of this new division of territory is to coordinate more closely the operation of the recognized state forces and the Federal forces within the prescribed territory and to erect in time of peace the machinery whereby, in national emergency, the state forces in proper proportions may be allocated with a proper proportion of Federal force to make up a balanced force from the particular area without the disorganization and confusion which has previously obtained.

RANGE PRACTICE

In the range practice work under General Orders No. 15, A. G. O., 1920, I have to report the operation of the rifle ranges as follows: Camp Logan, near Zion City, and Camp Lincoln, near Springfield. The rifle practice was carried out in strict conformity with the system adopted by the United States Army and was conducted by the officers directly in charge in an efficient and commendable manner. The result accomplished in increased efficiency and discipline has been most gratifying.

TROOPS ORDERED TO ACTIVE DUTY

Chicago Riot.

Ordered for active duty July 28, 1919, city of Chicago, Brigadier General Frank S. Dickson assumed command of the following organizations of Illinois National Guard and Illinois Reserve Militia:

Eleventh Infantry, Illinois National Guard.
First Infantry, Illinois Reserve Militia.
Second Infantry, Illinois Reserve Militia.

Ordered for active duty July 29, 1919:

Ninth Infantry, Illinois National Guard.
Tenth Infantry, Illinois National Guard.
Fourth Infantry, Illinois Reserve Militia.

Also Lieutenant Colonel J. R. Kline and Major M. L. C. Funkhouser.

Relieved from duty as follows:

Major M. L. C. Funkhouser, August 10, 1919.
Lieutenant Colonel Julius Reynolds Kline, August 6, 1919.
Ninth Infantry, Illinois National Guard, August 8, 1919.
Tenth Infantry, Illinois National Guard, August 8, 1919.
Second Infantry, Illinois Reserve Militia, August 8, 1919.
Fourth Infantry, Illinois Reserve Militia, August 8, 1919.
First Infantry, Illinois Reserve Militia, August 9, 1919.
Third Infantry, Illinois Reserve Militia, August 9, 1919.
Eleventh Infantry, Illinois National Guard, August 9, 1919.

Peoria.

Ordered for active duty August 13, 1919, in the city of Peoria:

Brigadier General F. S. Dickson.
Brigadier General Frank P. Wells.
Tenth Regiment, Illinois Infantry, National Guard.
Second Battalion, Seventh Infantry, Illinois Reserve Militia; relieved August 16, 1919.

Ordered for duty in connection with the visit of King Albert of Belgium, 4:30 p. m., Tuesday, October 21, 1919:

Company D, Fifth Infantry, Illinois Reserve Militia.
Company A, Seventh Infantry, Illinois Reserve Militia.
Company B, Seventh Infantry, Illinois Reserve Militia.

Tornado Duty, Cook County.

Ordered on active duty account of tornado in Cook County, March 28, 1920:

Commanding Officer, Eleventh Infantry and troops under his command. Relieved March 29, 1920.

Tornado Duty, Elgin.

Ordered on active duty account tornado at Elgin, Illinois, March 28, 1920:

Captain M. H. Brightman, Company D, Tenth Infantry and troops under his command. Relieved March 30, 1920.

Riot Duty, Kewanee.

Ordered on active duty at Kewanee, Illinois, April 14, 1920:

Brigadier General F. S. Dickson.
Colonel James Ronayne.
Colonel S. O. Tripp.
Lieutenant Colonel William E. Swanson and two battalions Eleventh Infantry, Illinois National Guard and two sections of Machine Gun Company, Eleventh Infantry. Relieved April 20 and April 23, 1920.

Riot Duty, West Frankfort.

Ordered on duty at West Frankfort, Illinois, August 5, 1920:

General Frank P. Wells in command of troops.

Following officers and organizations ordered:

Colonel Frank L. Taylor, Ninth Infantry.
Major W. E. Satterfield, Ninth Infantry.
Captain W. E. Lawrence, Ninth Infantry.
Headquarters Company, Ninth Infantry.
Supply Company, Ninth Infantry.

Medical Corps, Ninth Infantry.

Company B, 9th Infantry.

Company D. Ninth Infantry.

On October 6, 1920, the following additional officers and organizations were ordered to West Frankfort for active duty:

Colonel S. O. Tripp, Assistant Quartermaster General.

Colonel O. P. Yeager, Tenth Infantry.

Lieutenant Colonel John H. Lewman, Tenth Infantry.

Major John O. Smith, Tenth Infantry.

Major Albert E. Zoller, Tenth Infantry.

Headquarters Company, Tenth Infantry.

Supply Company, Tenth Infantry.

Two medical officers to be selected by Colonel commanding.

Company A, Tenth Infantry.

Company B, Tenth Infantry.

Company C, Tenth Infantry.

Machine Gun Platoon, Tenth Infantry.

Company E, Tenth Infantry.

Company F, Tenth Infantry.

Company H, Tenth Infantry.

Major Lyle Roszell, Seventh Infantry.

Major Amos A. Crooks, Medical Corps, Seventh Infantry.

First Lieutenant August G. Thede, Battalion Adjutant, Seventh Infantry.

Company E, Seventh Infantry.

Company F, Seventh Infantry.

Company G, Seventh Infantry.

Company H, Seventh Infantry.

On August 7, 1920, Lieutenant Colonel Samuel N. Hunter, Ninth Regiment was ordered to report for active duty to Brigadier General Frank P. Wells, in the city of West Frankfort, Illinois.

Relieved from active duty at West Frankfort, August 9, 1920, Colonel Frank L. Taylor, Ninth Infantry.

Following officers and organizations relieved from active duty August 11, 1920:

Colonel O. P. Yeager, Tenth Infantry.

Lieutenant Colonel John H. Lewman, Tenth Infantry.

Headquarters, Tenth Infantry.

Supply Company, Tenth Infantry.

Major John O. Smith, Tenth Infantry.

Companies A, B, and F, Tenth Infantry.

Headquarters Company, Ninth Infantry.

Supply Company, Ninth Infantry.

Medical Corps, Ninth Infantry.

Companies B, D, and L, Ninth Infantry.

Company K, Ninth Infantry.

Following officers and organizations relieved from active duty August 12, 1920:

Brigadier General Frank P. Wells.

Colonel S. O. Tripp, Assistant Quartermaster General.

Lieutenant Colonel Samuel N. Hunter, Ninth Regiment, Illinois Infantry.

Major W. E. Satterfield, Ninth Infantry, Illinois National Guard.

Major Albert E. Zoller, Tenth Infantry, Illinois National Guard.

Captain W. E. Lawrence, Ninth Infantry, Illinois National Guard.

Lieutenant S. A. Alexander, Ninth Infantry, Illinois National Guard.

Lieutenant Leslie R. Brown, Ninth Infantry, Illinois National Guard.
Machine Gun Platoon, Tenth Infantry, Illinois National Guard.
Companies C, E, and H, Tenth Infantry, Illinois National Guard.
Major Lyle W. Roszell, Seventh Infantry, Illinois Reserve Militia.
Major Amos A. Crooks, Seventh Infantry, Illinois Reserve Militia.
Lieutenant August G. Thede, Seventh Infantry, Illinois Reserve Militia.

Companies E, F, G, and H, Seventh Infantry, Illinois Reserve Militia.

I cannot dismiss a matter of active duty operations with the bare listing of places of disturbances and the organizations involved. Common fairness to officers and men alike impel me to invite attention to the tactful, efficient and soldierly conduct of the officers and men in all of the trying conditions with which they were confronted in discharging their full duty in the protection of life and property and in the preservation of law and order on all the occasions requiring their call to the field. One who has not had to deal directly with the many delicate situations and possible angles of embarrassment in connection with the dispatch of troops into a condition of disorder is not in a position to understand what real tribute of appreciation the personnel of our military force has earned by their splendid service in each and all of the duties which have confronted them since the time of my last report.

In addition to the above instances in which troops were called in Illinois, the State, during the past year, faced many other very difficult problems which were handled without calling troops, among the most important being the troublous times throughout the United States incident to the steel strike of four months' duration. It seems to me that particular reference should be made to the institution at that time of the Governor's policy of insisting upon a deeper realization by local civil government and citizens generally of their proper responsibility for the maintenance of peaceful government in their communities. I am advised that Illinois had as many, if not more steel strikers within its borders than any other steel producing state in the Union. Illinois also had more troops than any other steel producing state which during those troublous four months did not find it necessary, in order to preserve law and order and to protect life and property, to call a single soldier to active service. The first call for assistance from any community in the State in connection with the steel trouble came from the city of Waukegan. After being acquainted fully with the Governor's idea of the responsibility of the local people, I was sent there. The sheriff was urged to deputize citizens to preserve the law and to select citizens resident in Waukegan where the trouble lay, rather than from the outlying districts in the county. This suggestion met with the general complaint that the business man did not want to serve because such service might be a detriment to his business. I continued respectfully to insist that the business man should properly serve, adding that in the number of years of experience I found that often in our local communities on an occasion of local disorder a business man was inclined to meet the peace officer at the front door with words of commendation and the

law breaker at the rear door with expressions of sympathy and between the two the peace and security of the general public always suffered. The sheriff deputized a number of local representative men.

A few days later there was an unfortunate occurrence at the entrance of a big steel plant which resulted in an immediate call upon the Governor by the sheriff, mayor and chief of police for troops. A second time I was directed to proceed to Waukegan. I found upon arrival a called meeting of the Chamber of Commerce whose membership comprised the representative citizenship of this thriving little city. This body was prepared to object to the use by the sheriff of local business men as deputies and to insist upon the presence of troops.

Before such resolution was put however, the president very courteously called upon me, and I expressed to that body the thoughts and policies of the Governor. I made clear to them that it was the Governor's purpose to preserve law and order in Waukegan and in all other sections of Illinois at all hazards but endeavored to make clear to them his idea of the sense of local responsibility, the power of which must be exhausted before a call for troops. I endeavored to show them that government is founded upon the surrender of certain inalienable rights of the individual citizen to secure the greater rights which he retained; that each year the citizen gives up a certain part of his property in taxes to the end that the greater portion which he retains may be the more efficiently administered and properly protected and that no man has the right to enjoy the opportunities of government and fail to share his full responsibility for the maintenance of that government. I pointed out further that if it became necessary in order to preserve law and order that troops be brought to Waukegan, we would be compelled to take the business and professional men from some part of Illinois where civil government had not broken down, in order to make it possible for the wives of the citizens of Waukegan to traverse their city streets unmolested and their children with books in strap to leave their homes to attend the public school, there to learn the duties and blessings and opportunities of a government under the law, without danger or violence and assault. It was urged upon this group of representative citizens that they should serve notice on both sides of the present disturbance that while they might deprecate the existence of such disturbance, yet as citizens they were holding no public opinion of the merits or demerits of the respective issues but intended solely to serve notice upon both sides of the controversy that neither side would be permitted to use the peace and quiet of the community as a foot ball for a mob.

To the very great credit of that community, this body of representative citizens at once pledged their support to the sheriff in the maintenance of law and order and responded so willingly and so effectively that in the entire remaining period of that great steel disturbance there was not a rock thrown nor a shot fired in Waukegan. It was a community which found itself, and I apprehend that there is no community

in Illinois today prouder of its civil achievement than the city of Waukegan.

Following the course in effect there, the same was applied to Joliet and South Chicago. In South Chicago I am advised, there were as many men in the strike element as in any single city in Indiana and yet so thoroughly did the civic authorities operate in South Chicago that not only was the presence of troops rendered unnecessary but, if I am correctly advised, the record of the police blotter shows only one assault and 23 window lights demolished in the entire period of the controversy.

I have been constrained to set forth the above incident because I believe that it is not only a somewhat new departure but that it goes to the very foundation of government. If our information and understanding is correct that there is in our country today a very widespread element of discontent and unrest growing out of the cataclysm of war, this element may crystallize under radical leadership in disturbances of greater or lesser moment at many places throughout the land and practically simultaneously. Should this come and either through indifference or neglect civil government break down, it would be indeed a sad day for our boasted institutions and our Nation of law and order for this Nation is made up of a million Waukegans, South Chicagos and Joliet. It is only as local civil officials, in their attempt to enforce the right of a people to live in a community of peace and law supremacy, may be supported by the opportunity possessing, law abiding citizenship, that the community may live and government itself exist. It is of course true that sometimes situations arise which are manifestly, by reason of conditions, beyond the control of the utmost efforts of local authorities and citizenship. Then the presence of troops is, of course, mandatory, but under ordinary circumstances the use of troops would be minimized by the determination of local officials and citizens first to exhaust all the proper remedies which lie in their own hands.

APPROPRIATIONS AND DISBURSEMENTS ILLINOIS NATIONAL GUARD
AND ILLINOIS NAVAL RESERVE, OCTOBER 1, 1918, TO NOVEMBER
30, 1920

EXPENDED OCTOBER 1, 1918, TO SEPTEMBER 30, 1919

Appropriation by Fiftieth General Assembly

• Appropriation, Office:

Clerk Hire—

Balance Oct. 1, 1918.....	\$10,815 62
Expended Oct. 1, 1918, to Sept. 30, 1919.....	16,855 04
Balance Sept. 30, 1919.....	<u>\$2,960 58</u>

Office Supplies—

Balance Oct. 1, 1918.....	\$2,684 58
Expended Oct. 1, 1918, to Sept. 30, 1919.....	2,684 58

Office Equipment—

Balance Oct. 1, 1918.....	\$31 72
Expended Oct. 1, 1918, to Sept. 30, 1919.....	31 72

Total balance Oct. 1, 1918.....	\$22,531 92
Total expended Oct. 1, 1918, to Sept. 30, 1919.....	19,571 34
Total balance Sept. 30, 1919.....	<u>\$2,960 58</u>

Appropriation Ordinary Fund:

Balance Oct. 1, 1918.....	\$444,252 83
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Expended for I. N. G.

Armory rent, fuel, light, etc.....	\$78,165 20
Camp and garrison equipage, clothing, equipment	76,457 30
Pay of officers and troops for camp duty and other duties ordered by the Commander-in-Chief.....	21,578 80
Transportation of officers and troops.....	53,517 47
Subsistence of troops at each camp of instruction, practice march or other duties.....	99,493 58
Horse hire and forage.....	172 25
Rifle practice, including all expenses, except of officers, enlisted men and civil employees.....	14,779 42
Pay of permanent salaried officers, clerks, enlisted men and civil employees.....	50,835 06
Miscellaneous expenses	46,436 54

Expended for I. N. R.

Armory rent, fuel, light, etc.....	802 76
Transportation of officers and troops.....	17 44
Subsistence of troops at each camp of instruction, practice, march or other duties.....	445 01
Pay of permanent salaried officers, clerks, enlisted men and civil employees.....	1,552 00

\$444,252 83

Appropriation for Emergency No. 2.....	\$84,979 10
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Expended for I. N. G.

Armory rent, fuel, light, etc.....	\$ 4,504 31
Camp and garrison equipage, clothing and equipment	37,306 96
Pay of officers and troops for camp duty and other duties ordered by the Commander-in-Chief	40,469 81
Transportation of officers and troops.....	31 81
Pay of permanent salaried officers, clerks, enlisted men and civil employees.....	9 00
Miscellaneous expenses	2,649 46

84,971 35

Balance Sept. 30, 1919.....	\$7 75
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SPECIAL APPROPRIATIONS

Appropriation, Cyclones:

Balance Oct. 1, 1918.....	\$77,491 24
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Balance Sept. 30, 1919.....	\$77,491 24
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Appropriation, Vicksburg Reunion:

Balance Oct. 1, 1918.....	\$10,045 40
Expended Oct. 1, 1918, to Sept. 30, 1919.....	\$ 89 04

Balance Sept. 30, 1919.....	\$9,956 36
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Appropriation, Record Burial Places Soldiers and Sailors:

Balance Oct. 1, 1918.....	\$9,224 44
Expended Oct. 1, 1918, to Sept. 30, 1919.....	2,056 61

Balance Sept. 30, 1919.....	\$7,167 83
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Appropriation, Repairs Arsenal:

Balance Oct. 1, 1918.....	\$1,912 81
Expended Oct. 1, 1918, to Sept. 30, 1919.....	1,912 81

Appropriation, Camp Logan:

Balance Oct. 1, 1918.....	\$16,425 00
Expended Oct. 1, 1918, to Sept. 30, 1919.....	7,656 69

Balance Sept. 30, 1919.....	\$8,768 31
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Appropriation, First Cavalry Armory:

Balance Oct. 1, 1918.....	\$122,036 02
Expended Oct. 1, 1918, to Sept. 30, 1919.....	115,990 57

Balance Sept. 30, 1919.....	\$6,045 45
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Appropriation, Second Regiment Armory:

Balance Oct. 1, 1918.....	\$10 85
Expended Oct. 1, 1918, to Sept. 30, 1919.....	10 85

Appropriation, Third Regiment Armory:

Balance Oct. 1, 1918.....		\$8,201 78
Expended Oct. 1, 1918, to Sept. 30, 1919.....	8,201 78	8,201 78

Appropriation, Galesburg Armory:

Balance Oct. 1, 1918.....		\$1,625 60
Expended Oct. 1, 1918, to Sept. 30, 1919.....	386 37	386 37

Balance Sept. 30, 1919.....		\$1,239 23
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Appropriation, Monmouth Armory:

Balance Oct. 1, 1918.....		\$10,656 46
Expended Oct. 1, 1918, to Sept. 30, 1919.....	10,656 46	10,656 46

Appropriation, Peoria Armory:

Balance Oct. 1, 1918.....		\$32,800 00
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Balance Sept. 30, 1919.....		\$32,800 00
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Appropriation, Kankakee Armory:

Balance Oct. 1, 1918.....		\$75,000 00
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Balance Sept. 30, 1919.....		\$75,000 00
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The balances of the Peoria and Kankakee Armories were re-appropriated by the Fifty-first General Assembly, effective July 1, 1919.

RECAPITULATION

October 1, 1918, to September 30, 1919

Appropriation, Office:

Total balance Oct. 1, 1918.....		\$22,531 92
Total expended Oct. 1, 1918, to Sept. 30, 1919....	\$19,571 34	19,571 34

Total balance Sept. 30, 1919.....		\$2,960 58
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Appropriation, Ordinary Fund, balance Oct. 1, 1918.....		\$444,252 83
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Emergency Appropriation No. 2.....		84,979 10
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Total		\$529,231 93
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Total Expended I. N. G.

Armory rent, fuel, light, etc.....	\$ 82,669 51
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Camp and garrison equipage, clothing and equipment	113,764 26
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Pay of officers and troops for camp duty and other duties ordered by the Commander-in-Chief	62,048 61
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Transportation of officers and troops.....	53,549 28
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Subsistence of troops at each camp of instruction, practice march or other duties.....	99,493 58
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Horse hire and forage.....	172 25
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Rifle practice, including all expenses, except pay of officers, enlisted men and civil employees....	14,779 42
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Pay of permanent salaried officers, clerks, enlisted men and civil employees.....	50,844 06
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Miscellaneous expenses	49,086 00
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Total Expended I. N. R.

Armory rent, fuel, light, etc.....	802 76
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Transportation of officers and troops.....	17 44
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Subsistence of troops at each camp of instruction, practice march or other duties.....	445 01
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Pay of permanent salaried officers, clerks, enlisted men and civil employees.....	1,552 00
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	\$529,224 18
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	\$7 75
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Balance Sept. 30, 1919.....	
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From this sum of \$529,224.18, there was expended \$271,700.12
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for Chicago riot and Peoria strike.

Balances for following appropriations:

	Balance Oct. 1, 1918.	Expended.	Balance Sept. 30, 1919.
Cyclones	\$ 77,491 24		\$ 77,491 24
Vicksburg reunion	10,045 40	\$ 89 04	9,956 36
Bureau record soldiers and sailors	9,224 44	2,056 61	7,167 83
Repairs arsenal	1,912 81		1,912 81
Camp Logan	16,425 00	7,656 69	8,768 31
Armories	250,330 71	135,246 03	115,084 68
	\$365,429 60	\$145,048 37	\$220,381 23

Total balance Oct. 1, 1918.....		\$917,193 45
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Total expended		693,843 89
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Total balance Sept. 30, 1919.....		\$223,349 56
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EXPENDED JULY 1, 1919, TO NOVEMBER 30, 1920

Appropriations by Fifty-first General Assembly

Appropriations, Office:

Clerk hire, July 1, 1919.....		\$53,400 00
Expended July 1, 1919, to Nov. 30, 1920.....	\$34,703 57	34,703 57
Balance Nov. 30, 1920.....		\$18,696 43
Office expenses, July 1, 1919.....		\$13,650 00
Expended July 1, 1919, to Nov. 30, 1920.....	6,356 66	6,356 66
Balance Nov. 30, 1920.....		\$7,293 34
Office travel, July 1, 1919.....		\$20,000 00
Expended July 1, 1919, to Nov. 30, 1920.....	8,157 62	8,157 62
Balance Nov. 30, 1920.....		\$11,842 38
Total appropriation, office, July 1, 1919.....		\$87,050 00
Total expended		49,217 85
Total Balance Nov. 30, 1920.....		\$37,832 15
Appropriation, Ordinary, July 1, 1919.....		\$852,000 00

Expended for I. N. G.

Armory rent, fuel, light, etc.....	\$266,888 75
Camp and garrison equipage, clothing and equipment	6,752 96
Pay of officers and troops for camp duty and other duties ordered by the Commander-in-Chief.....	48,463 51
Transportation of officers and troops.....	55,996 44
Subsistence of troops at each camp of instruction, practice march or other duties.....	17,730 81
Horse hire and forage.....	308 37
Rifle practice, including all expenses, except pay of officers, enlisted men and civil employees....	40,227 96
Pay of permanent salaried officers, clerks, enlisted men and civil employees.....	139,304 17
Miscellaneous expenses	28,090 25

Expended for I. N. R.

Armory rent, fuel, light, etc.....	924 93
Camp and garrison equipage, clothing and equipment	28 09
Transportation of officers and troops.....	19 77
Subsistence of troops at each camp of instruction, practice march or other duties.....	801 42
Pay of permanent salaried officers, clerks, enlisted men and civil employees.....	2,226 00
Balance Nov. 30, 1920.....	607,762 43
Total allotted from State reserve fund.....	\$244,237 57
Expended Chicago riot (pay troops).....	\$122,000 00
Expended Peoria strike (pay troops).....	\$107,671 07
Expended West Frankfort riot (pay troops).....	2,328 93
	11,717 30
Balance	121,717 30
	\$282 70

SPECIAL APPROPRIATIONS

Soldiers' and Sailors' War Service Records:

Appropriation July 1, 1919.....		\$17,000 00
Expended for clerk hire.....	\$7,558 98	
Expended for office expenses.....	1,386 74	
Expended for travel.....	297 62	
Expended for equipment.....	1,000 00	
Balance Nov. 30, 1920.....		10,243 34
		\$6,756 66

Record Burial Places Soldiers and Sailors:

Appropriation July 1, 1919.....		\$10,000 00
Expended for salary.....	\$2,400 00	
Expended for travel.....	1,062 16	
Expended for setting headstones.....	220 35	
		<u>3,682 51</u>

Balance Nov. 30, 1920..... \$6,317 49

Repairs Arsenal and Rifle Range:

Appropriation July 1, 1919.....		\$20,000 00
Expended	\$13,046 37	13,046 37

Balance Nov. 30, 1920..... \$6,953 63

Repairs Ottawa Armory:

Appropriation July 1, 1919.....		\$12,874 00
Expended	10,248 76	10,248 76

Balance Nov. 30, 1920..... \$2,625 24

Construction, Armories:

Appropriation July 1, 1919—		
Kankakee Armory		\$75,000 00
Expended	11,000 00	11,000 00

Balance Nov. 30, 1920..... \$64,000 00

Peoria Armory		\$150,000 00
Expended	1,640 00	1,640 00

Balance Nov. 30, 1920..... \$148,360 00

RECAPITULATION

July 1, 1919, to November 30, 1920

Appropriation, Office, July 1, 1919.....		\$87,050 00
Expended	\$49,217 85	49,217 85

Balance Nov. 30, 1920..... \$37,832 15

Appropriation, I. N. G., July 1, 1919.....		\$852,000 00
Expended I. N. G.....	\$603,763 22	
Expended I. N. R.....	3,999 21	
		<u>607,762 43</u>

Balance Nov. 30, 1920..... \$244,237 57

Allotted from State Reserve Fund.....		\$122,000 00
Expended	\$121,717 30	121,717 30

Balance Nov. 30, 1920..... \$282 70

Appropriation, Soldiers' and Sailors' War Service		
Records		\$17,000 00
Expended	10,243 34	10,243 34

Balance Nov. 30, 1920..... \$6,756 66

Appropriation, Record Burial Places, Soldiers and		
Sailors		\$10,000 00
Expended	\$3,682 51	3,682 51

Balance Nov. 30, 1920..... \$6,317 49

Appropriation, Repairs Arsenal, Rifle Ranges and Ot-		
tawa Armory		\$32,874 00
Expended	\$23,295 13	23,295 13

Balance Nov. 30, 1920..... \$9,578 87

Appropriation, Construction Kankakee and Peoria Arm-		
ories		\$225,000 00
Expended	12,640 00	12,640 00

Balance Nov. 30, 1920..... \$212,360 00

Total appropriations July 1, 1919.....		\$1,345,924 00
Total expended		828,558 56

Total balances Nov. 30, 1920..... \$517,365 44

RECAPITULATION

October 1, 1918, to November 30, 1920		
Appropriations Oct. 1, 1918, to Sept. 30, 1919.....	\$ 917,193 45	
Appropriations July 1, 1919, to Nov. 30, 1920.....	1,345,924 00	
		<u>\$2,263,117 45</u>
Expended Oct. 1, 1918, to Sept. 30, 1919.....	\$693,843 89	
Expended July 1, 1919, to Nov. 30, 1920.....	828,558 56	
		<u>1,522,402 45</u>
Balance Nov. 30, 1920.....		\$740,715 00

In conclusion, may I refer with grateful appreciation to the services rendered by those who assisted in the strenuous work which has fallen on this department since the last biennial report. To the Commander-in-Chief I bear deep appreciation of the entire military service of the State for his constant and earnest cooperation in every effort to promote the efficiency of the service.

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